

Literature Review on Low Social Interactions in vertical Housing

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ABSTRACT: *Population growth from all over Indonesia keeps increasing daily, whether it is in rural areas or even urban areas. This phenomenon has affected several elements of cities concerning space availability which has led communities to live vertically rather horizontally. Increasing the number of vertical structures to be erected to sustain that particular problem. Living aspects have been impacted due to this, particularly pertaining social interactions within the community. There are a number of reasons that may affect social interaction in a vertical housing. Social interactions in vertical housings are able to be assessed through space programming, accessibility, shared amenities, and visibility. The main purpose of this paper is to compare related research papers and other sources on the phenomenon of how community space can be formed and designed in vertical living situations. Using Systematic Literature Review as a main method to identify, evaluate, and interpret all the related research papers concerning Community space form, meaning, value, and physical emergence inside a vertical living area. Thus finding elements in which a suitable community space can form physical space. In conclusion, the expected end results will become the guidelines and design recommendation that maximizes Community Space in Value and Form in a vertical living environment.*

Keyword: Social Interaction, Vertical Housing, Community space

INTRODUCTION

Why does living in a high vertical structure is commonly associated with low social community interactions? This question has been discussed quite frequently due to the unique circumstances of several conditions and factors in coming into play creating this phenomenon. Several papers and articles have researched this particular topic and have suggested their own opinions on what has caused and what can be improved to create a suitable community space that allows for continual social interactions between occupants. Simon Joscha Flender has discussed what was the fundamental cause of the low social interactions is due to the informal communities being forced out of their previous dwellings and moved into a new vertical configuration which causes less interactions between occupants (Simon, 2018). Additionally Irene, have focused on another cause on the aforementioned causes of lessening social interactions is mainly induced by the lack of proper public space programming which considers the spatial configuration that can allow for higher chances in interacting with other occupants (Irene, 2019).

Both papers further progress their research on how the phenomena was created by these main causes and created several key points in which areas and elements that need to be implemented back into the vertical housing as a suggestion to improve the current situation.

From the above data we can perceive that there are many factors in which social interaction in a new configuration can be impacted through many causes and situations. In particular due to the new configurations of living vertically, in this case space programming

became a main focus to enhance social interactions as a possible method which can greatly solve all the major issues concerning low interaction between occupants. This method requires several case studies on how each case is being solved, in this case we take several case studies pertaining to submitting it.

Public space programming that is intended to enhance social interaction is a viable method to sustain the existing social quality. Through large open areas, people are able to experience interactions without the need of any restrictions. This aspect is commonly forgotten in vertical housings. These public programmings are able to be utilized by the residents and the surrounding community to create social interaction that degrades individualism while also achieving several goals such as common well-being, social intimacy, and mutual sense of security.

Thus, the space arrangement in between residential and areas which enhances social interactions is a vital factor in sustaining, enhancing social interaction and intimacy inside the community in a vertical setting. The vertical building alone is able to aid in urbanization problems of physical manner, additionally the public space can aid in the social problems.

LITERATURE REVIEW

When discussing why the community works in this way, we must consider many factors, which constitute the elements of living together. Of these factors, some are more critical than others in defining the community. Over time, every community that lives in the settlement will develop a sense of identity that is intertwined with the place. The concept of "place identity" assumes that the location and architectural elements of residential areas define the relationship between residents and the environment (Speller, et al.,2002). According to the teachings of Harold M. Proshansky, place identity is the dimension which defines an individual's personal identity in coherence with the conscious and unconscious ideas of an individual related to the environment (Proshansky, 1978). Additionally, Miriam Billig highlighted that the physical environment and housing type may have a significant effect on the sustainability of a community's structure and its residents' place identity (Billig, 2014). While analyzing a community, which is intended to be transferred to a different spatial surrounding from what it was before, the place identity and the role of the individual within this community has to be considered.

Related to place identification is the circulation method in horizontal communities, which mainly consists of informal dwellings and is usually implemented without the need for a car. Billig explained: "Practical daily chores, such as drying clothes, gardening and yard work, or caring for children in the garden, are all public affairs; these tasks are all talking to neighbors or making eye contact with past guests and inviting them as possible opportunities to visit." (Billig, 2014). In addition to interacting in shared spaces such as community centers or religious places, this "horizontal" element also considers the possibility of regular eye contact and promotes the establishment of communities among residents. In addition, clearly defining the barriers and distinctive features of settlements seems to enhance the sense of belonging

"The settlement gate surrounded and defined the public space and imparted a sense of belongingness and responsibility to the residents in regard to the space. Walking in the public space invited frequent inter-personal contact among the residents and contributed

towards strengthening social relationships and a sense of both belongingness and identification among community members” (Billig, 2014).

Vertical Housing

There are some characteristics related to living in vertical housing types, which are of concern to different authors. According to data published by researchers Jean Conway and Barbara Adams in 1977, population density itself does not seem to have a significant impact on residents' satisfaction. Instead, it is obvious that "the attractiveness of real estate has a large impact on the overall satisfaction of residents.." However, for certain groups of residents, vertical living may be more convenient than other residents. "Studies in Holland and North America have concluded that high-rise living is really suitable for middle- and high-income groups" because they "are able to compensate in a variety of ways not open to the poor. They take vacations and take the children to leisure clubs. "Research shows that "family with minor children live with serious problems." These dilemmas are "closely related to the age of the child." Mothers report: "Lack of opportunities for play, the pressure of having to take care of the child at all times, and the need to be in The adverse effects of indoors on children. "Moreover, "The National Council of Women's report on life in high blocks pinpointed the isolation of young mothers who were flat bound [...] And also pointed out the noise problem that can be caused by being flat bound with a child. "The common benefits of living away from the ground include the brilliance and ease of management of the apartment. Residents also believe that the air is fresher and cleaner. The lack of noise and interesting sights provide a source of enjoyment and privacy. In extreme cases, privacy is also associated with loneliness. together(Conway & Adams, 1977).

A big argument in high-density developments is the harm to the property in acts of vandalism. In a study, American architect Oscar Newman suggested: "The lack of semi-private space in high-rise buildings [...] This means that there is no neutral Simon Joscha Flender 4 area between the complete public area and the privacy of the house. Therefore, all residential use methods are public and anyone can use it. Because they are public places, residents do not have any sense of territory in these areas, and they will not "supervise" them." Newman's subsequent strategy focused on "dividing public areas so that individuals feel responsible for their part"" (Conway & Adams, 1977).

Vertical connectivity is researched to be a medium to increase social interactions amidst several public spaces which are situated inside the building, by aiding in visual connections and situations where it grants people to exceed the common social segregation which is able to exist in public spaces. Hitzler commented on public spaces contributing a notable role in our societal order through aiding us in understanding our own individual roles and expected behaviour inside the community. Involving and interacting in public spaces which can provide us with a sense of security and belonging. He also announced that public spaces are where it is tangibly shown the strengths and difficulties are seen where it can present a scene for performance and self expression to the community. That will be publicly interpreted by the public consensus.

In said journal, Hitzler concurred that several design elements are able to help lessen social seepertation in urban communities through enhancing positive associations openly. These elements include public access, programs, hybridization, and periscopes.

Public Access

A criteria when the ground floor or lobby is available for the public to establish a distinct open space on an urban scale, that can accommodate several number of occupants. The clarity enables people to access the building without any barriers, physical or non - physical, where people have an option to be in public instead of an enclosed private lobby. Open roofs are also another method of public accessibility, The periscope extends beyond the building, which provides a rare view for the public. By dividing this normally invisible space into a kind of space, it can also be used as a periscope to design a passage to the open roof.

Programs

A criteria where several functions of their intended daily uses are repurposed into a collective activity. As an example, a multi purpose lounge exchanges a singular activity such as a private entertainment center, or a big park exchanges a private exercise area. The concept of community living in a vertical setting is thereby focused on through the configuration of triple height shared amenity areas.

Hybridization

Standards of public programs are distributed between residential floors, enabling rare connections and configurations. The shared circulation of public and private programs expands the possibilities for interacting with another person, the same as people interacting on the street or sidewalk. In certain spaces, such as atriums or gaps, specific activities can also be regarded as a space within a certain distance.

Periscopes

A configuration where periscope atriums function as medium to link public spaces between one another. The meaning of periscopes itself is a network containing reflective elements to allow an onlooker to view objects or new perspectives that when compared to a normal line of sight is commonly unseen. Such examples include a laundry etc. Every unit of the residential floor has a window that faces toward the existing shared spaces. The periscopes atriums include visible periscopes, extended periscope, communal space periscope, public space periscope, and a periscope from the top.

As society grows and develops different ways of interacting every day. The position of architects in this era has become more critical, due to the architects duty of creating spaces which grants physical and direct interaction inside the community. Meaning that these definitions are vital to make a vibrant city life, into a vertical setting, supported by periscope atriums. The atriums function as a substitution for which is normally seen in an everyday interaction in the city, but only in a vertical setting. In such a unique building, the difficulty lies in the diverse needs of each kind of users and visitors, varying from onlookers to permanent residents. The biggest challenge in a vertically dispersed public space is its use and the definition of "public". In this special building, the internal and external circulation, the periscope atrium, and the open ground floor can all eliminate the visible barriers between the external public areas and the internal private areas, while also weakening the higher floors. Although it is an ideal situation where this kind of

configuration can enhance social interaction while also considering the increasing amount of urban areas threatening the existence of social closeness.

METHODOLOGY

By comparing the precedent study cases, the purpose is to study how social interaction elements are designed in different forms of two different building typologies. These 2 precedences, each presents one common type of building typologies of a tower form and courtyard form. Block or dense form is not included in the precedent study mainly due to the current researched theory of it not supporting a quality social interaction.

RESULTS AND DISCUSSION



Figure 1 : Perspective of The Pinnacle

Source : <https://id.pinterest.com/pin/451415562642553916/>

Duxton's Pinnacle is the first precedent. The residential complex is designed and shaped like a tower typology building, including seven towers, each with a height of 50 stories, connected horizontally by two sky bridges. The building has a unique configuration in dealing with public spaces related to the presence of vertical houses and communities. The open area was created by increasing the height of the ground to convert it into a low podium roof with a flyover at a higher level. This is an example of a building that prioritizes public spaces and areas, but also considers the height restrictions of the building. In particular, the method they choose to provide public access is through its open ground floor and open roof terrace.



Figure 2 : Cross section of the podium in The Pinnacle

Source: <https://divisare.com/projects/150328-arc-studio-architecture-urbanism-pinnacle-duxton>

In the Pinnacle, the ground floor plan is entirely dedicated as a public area. It is elevated to create a void deck that is utilized for public usage, for instance the circulation or stores, and other supporting amenities. The other is an open space included alongside accessible facilities for residents and visitors.



Figure 3 : Elevation of the Pinnacle

Source: <https://divisare.com/projects/150328-arc-studio-architecture-urbanism-pinnacle-duxton>

The Sky bridges the roof of all seven towers, forming an open public area, adding on spaces where residents are able to further interact with one another. Moving on to the space programs, the Pinnacle focuses on programs which can create a cooperative activity such as void decks, four playgrounds, seating areas, a pavilion, green park, field, sport center, jogging track, pathways, and a roof garden. Hybridization in the Pinnacle is implemented by using shared circulation spaces and programs distributed throughout the building. To fulfill the residence needs, the space programs are distributed vertically and horizontally. The

distribution is also utilized in the ground floor where visitors are granted pathways which passes through the void decks and public spaces below the building.



Figure 4 : Open Areas in the upper floors of the Pinnacle

Source: <https://divisare.com/projects/150328-arc-studio-architecture-urbanism-pinnacle-duxtun>

Alongside this space configuration, periscope atriums are created by designating a certain public area. While the design of the building is blocking a direct sight in between units, connections, views, airflow, and lights are enhanced by limiting solar radiation exposure coming from the west. An extensive courtyard is placed for sustaining visual connections with Tanjong Pagar Community Club where it is a vital community node in that particular local proximity.



Figure 5 : Perspective of the Interlace

Source : <https://www.archdaily.com/627887/the-interlace-oma-2>

The second precedent is called the Interlace by OMA which is a courtyard type vertical housing. Contrary to typicality of singular vertical towers, the Interlace implemented a unique solution to respond to the environmental issues presented there by utilizing an extensive combination of recreational spaces and living spaces conjoined

alongside the natural surroundings. The building arrangement is intentionally planned to suit the societal requirements of the inhabitants which is proposed to accomplish the societal requirements of the community.

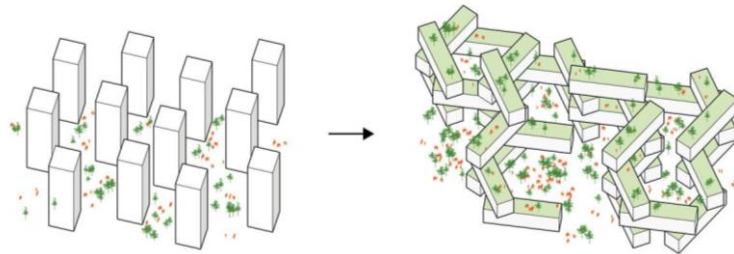


Figure 6 : Mass arrangement of the Interlace

Source : <https://www.archdaily.com/627887/the-interlace-oma-2>

Public access in this building is also created through the use of an open ground floor plan alongside with an open roof plan similar to the previous precedent study . The expansive ground floor was designed from a stacking arrangement of six stories mass buildings being piled on top of each other in a hexagonal configuration that has formed eight courtyards with a significant accessibility. The created courtyards function as a public area where residents are able to conduct activities in a jointly manner. The interconnected rectangular mass established several sky gardens and a variety of public and private roof gardens.

Communal programs are focused on by the sheer quantity of public programs presently accessible inside these open spaces that are equipped with communal spaces for joint activities. The programs include a tennis court, swimming pools, parks, sports center, spas, playgrounds, walkways, and barbeque areas. Hybridization here is created through shared circulation and distributed programs. The programs are distributed at eight different public areas in each single building intended to provide necessary requirements of public activities of the tenants and residents. The spaces created by the hexagonal arrangement have created several roof areas that have been utilized as a semi private sky garden, while also dividing among the residence for private uses.



Figure 7 : Space distribution in the Interlace

Source : <https://www.archdaily.com/627887/the-interlace-oma-2>

The circulation is furthermore emphasized on the ground floor plan by using it as public space that grants visitors accessibility to all public spaces through the different functions. Following this configuration, an extensive quantity of landscape has enveloped throughout the building providing public and private areas along each floor. With these several created spaces, it can be considered also a periscope atrium. A diverse variety of views created by the building arrangement and different elevation have made it to be a unique perspective compared to the surrounding buildings

Concluding from the study, the precedence of these two different building typologies is that the implementation of design elements that enhance social interaction can vary for different types of buildings. Which resulted also in a variety of results. With different typologies there is also a different method of approach and end results that can be shown in the table below.

Table 1. Comparison between two precedences

Elements that enhance social interaction	Strategies	Building Typologies Tower (The Pinnacle) Courtyard (TheInterlace)	
Public Access	Open Ground Floor Plan Open Roof	Vois Decks Sky Bridges	Courtyard Sky Gardens
Program	Communal Activities	Services: Parking, Basement, Observation Deck, Committee Center, Food Court. Education: Childcare, Education Center. Commercial: Small Stores Open Spaces: Parks, Walkways, Sky Bridges, Playgrounds, Seating Areas, Jogging Track, Pool	Services: Parking, Basement, Laundry, Workspace. Education: Reading Room Commercial: Retail Plaza Open Spaces: Sky Gardens, Court, Park Jogging track, Pool.
Hybridization	Distributed Programs	Distributed in a linear line	Distributed centrally along focal points in the courtyards
	Shared Circulation	Horizontally on the Ground Floor amidst the pubic areas Walkways in the upper floors in between the open spaces and units such as corridors Vertically in between open spaces: Building Core	

Periscope	Atrium	<p>Visible periscope: sky bridges,</p> <p>Periscope via communal space: public areas and public facilities,</p> <p>Periscope through open space: big courtyards in the ground floor and sky bridges,</p> <p>Periscope from above: sky bridges at the roof.</p>	<p>Periscope via communal space: existing public spaces,</p> <p>Periscope via open space: courtyards and sky gardens,</p> <p>Periscope from above: sky gardens between the buildings.</p>
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CONCLUSION

This paper presents that according to the precedence studies, tower type buildings are able to implement programs and periscopes more than courtyard type buildings, while concerning public spaces and hybridization are more finely implemented in courtyard type buildings. Courtyard type buildings are additionally able to create better intimate public spaces which are able to enhance social interaction, although at the behest of its design methods.

DESIGN RECOMMENDATIONS

But between these buildings they also have common elements which have been present at the time of their planning to succeed and have been focused on. These elements are :

- Open Ground Floor Plans that dissolve public and private barriers
- Distributed Public Programs where a number of differently placed programs can intensify the community
- A diverse variety of programs that focuses on the aspect of joint activities rather than individual activities
- Terraces and gardens that functions as a mediator for social interactions
- Atriums or voids which enable new perspective to be seen from different angles

These traits are several of the options and design choices that can enhance social interaction by using physical traits which focus on the community or societal closeness that a vertically arranged structure needs. Thus implying that without these certain traits the needed change of the low social interactions of a typical building form cannot be executed.

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