SCIENTIFIC CULTURE
www.sci-cult.com

SCIENTIFIC CULTURE, Vol. 12, No. 4, (2026), pp. 6443-6457
Open Access. Online & Print

DOI: 10.5281/zenodo.12426669

A STUDY ON THE APPLICATION OF SKYBRIDGES AS SOCIAL SPACES IN BUILDINGS

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Received: **20/12/2025**
Accepted: **18/01/2026**

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ABSTRACT

Skybridge can give lungs to newly constructed buildings like in Sky Habitat Singapore. This study shows different ways skybridge are used in other countries. It can give concepts and framework to our proposed skybridge providing psychological, social and physical wellness in the city as how Ayala Triangle Gardens heals the Makati Community. Surveys answered Ayala Triangle Park and the skybridge adds psychological healing through the trees and plants. It relaxes the mental health of employees from the eight hours of work. A great idea to be constructed in the heart of Makati full of tall buildings and busy streets from vehicular traffic. Food stalls, accessible restrooms and adding more benches and tables were recommended. Thus, emulating Ayala Triangle Park in a form of skybridge, social spaces can easily be added to newly constructed buildings relaxing the employees and enhancing their productivity.

KEYWORDS: Skybridge, Urban wellness, Psychological healing, Social spaces, Green architecture.

1. INTRODUCTION

Many people around Ayala Triangle Gardens, a park in the center of Makati, can experience two hectares of greeneries that relieves stress in their eight hours of work. There are offices that are far from this area that cannot experience the green park. Lot spaces are expensive thus these are reserved for buildings. Designing a skybridge for new buildings can help relieve the stress of numerous employees improving their psychological health. In the Philippines we started from over pass then to the skybridge of Runway Manila, SM MOA Complex and SM Sucat. Skybridge of Singapore is an open air full of gardens that can give nature-therapy to its tenants. Linking Hybrid, Bridge of Aspirations and Calgary 15 are pedestrian bridges connecting two buildings. Marina Sans Bay is a multipurpose resort-type deck. Petronas tower is a viewing deck for visitors. Our proposal Is similar to the enclosed and air-conditioned bridges to avoid the strong winds heat from the sun and ensure safety of its users but unlike the above examples, this social space is landscaped with artificial gardens providing benches, food stalls, Wi-Fi and charging ports.There are many skybridge or overpass constructed in Makati protecting the citizen from car accidents. But the skybridge proposed is intended to add in new buildings during design phase as a social space catering a relaxation area for the employees. Because Ayala Triangle can only serve its nearby offices a skybridge at high levels such as 20th floor can also be a landmark while experiencing a great view of the city.This research study aims to improve the physical and psychological well-being of the employees of the proposed buildings. Aiming to prepare a design framework to guide the construction of the proposed skybridge can help the central business districts have a social space integrated in their buildings itself. Skypark can be provided, located between two buildings like a skybridge that can be used by the employees as their social space. The proposal can fall under the category of Good Health and Well Being from the Sustainable Development Goals where employees are enhancing their productivity at work the next day [1]. Nature can give psychological therapies to stressed people by generating quick, positive emotions [2]. This research focuses on the studies of skybridge from abroad to local. By studying the relevant structures, the feasibility of an elevated social space can be proven. It will focus in Makati City only by observing the visitors of Ayala Triangle, studying the social impact of the park to the Makati community. Structural computation, bridge typology and history are not included. Other cities such as Manila, Mandaluyong and Taguig City are not included in the research.

2 LITERATURE REVIEW

Skybridges exists in the Philippines as pedestrian bridges connecting buildings. In other countries except from connectors, skybridge houses gardens, pool and viewing deck

A. Theoretical Framework

In designing a skybridge the following theories can be observed:

Space syntax theory is created by Hillier and Hanson. It focuses on spatial elements which affects human behavior such as movement, gathering and isolation by accessibility and connectivity. Third place theory by Oldenburg introduced the concept as neither home nor work but a social space that fosters community such as cafes, bars and parks where people gather informally. It is designed to be welcoming, accessible and encouraging to socialization making it important to the community and social health. Environmental psychology and human behavior in space theory focuses on how environmental factors such as lighting, acoustics, color and spatial dimensions affect mood, productivity and social interaction. For example open plan spaces encourages collaboration while enclosed spaces suggests privacy. This theory is applied to meet the emotional and psychological needs of the users. Participatory design and social empowerment involves users in designing to construct the environments based on their needs thus creating spaces that reflects their social values.

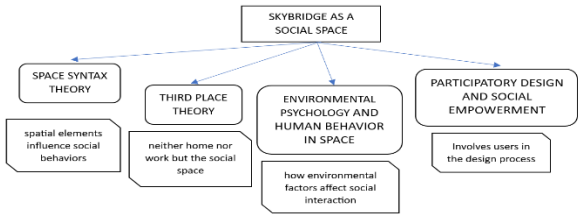

Figure 1. Theoretical Framework

B. Conceptual Framework

By understanding the importance of a social space in Makati is the reason why we are taking this research and as it can be needed in other building occupied cities such as Manila, Mandaluyong and Taguig. The RRL covers the existing skybridges locally in Makati, Manila and Sucat that can be our guide in constructing our skybridge. Sky Habitat connected two residential towers by three skybridges. Linking Hybrid connected at 12th and 18th floor while catering commercial establishment in ground floors.

Skybridge in Marina Bay Singapore is famous in this topic yet our proposal is enclosed and air-conditioned to acquire safety from strong winds. Petronas Towers had another higher level skybridge which is in 41 and 42 and asks for ticket that is paid. The bridge of Aspirations has a related design while being independent element as well which can be our guide to not misled people through its façade.

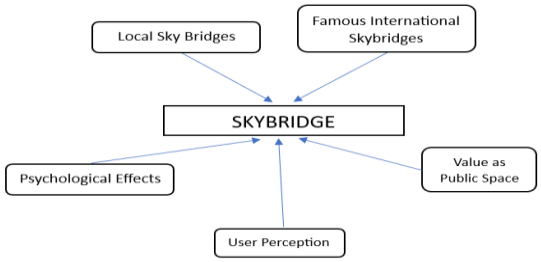

Figure 2. Conceptual Diagram

Skybridges can give psychological effects such as improving mood through social interaction and community engagement thus providing happiness to the users. People create memorable experience and stunning views while others have anxiety through the fear from heights as their user perception. It gives sense of freedom through the panoramic views of the city while a sense of neglect or separation in the community if poorly designed and poorly maintained. Thus, careful planning and sustainable practices and materials are preferred. Skybridges provides connectivity and relaxation as a social space, thus enriching the social fabric in the community. Amenities can vary from seating areas, lighting, green spaces, to Wi-Fi access and many more. While the features consist of weather protection, safety systems and event spaces.

C. Related Literature

1. Skybridge Local

Figure 3. SM Sucat Connecting Bridge Mall A and Mall B

Locally, bridges can be found in buildings of the same company. MOA incorporated open air bridges to connect the other parts of mall together with MAAX, Arena and IKEA. Same with SM Sucat wherein the SM property owned the two sides of the street. It is connected by an enclosed air-conditioned bridge with small retail stalls. This connects buildings where the street is passable of trucks and other vehicles.

Figure 4. Runway Manila Interiors

Runway Manila is a 220m airconditioned footbridge connecting NAIA 3 to Newport City Hotels. It has walkalators and elevators that are PWD friendly. It costs 1.5 billion constructed by Alliance Global Group. "Runway Manila provides a more convenient and safer alternative access for guests, and an instant gateway to Resorts World Manila's gaming thrills, world-class performances, unique events, exciting lifestyle options, and now highest speed 5g connectivity," the company said [3]. This is a sample of a bigger and longer skybridge in Manila connecting NAIA to Resorts world.

2. Skybridges Abroad

In the dictionary Skybridges are referred to skywalk, wherein defined as "enclosed aerial walkway connecting two buildings [4]. Skybridges used to be constructed in New York connecting buildings. But all were demolished because Americans nowadays prefer using elevators and sidewalks. The East 24th Street Skybridge, The West 32nd Street Skybridge, The Pine Street Skybridge, The West 15th Street Skybridge, The Staple Street Skybridge are all no longer in use [5]. Signifying that old skybridges are not effective in America any longer.

While nowadays skybridges are one of the new trends in Architecture. Sky Habitat in Singapore are two residential towers connected by three skybridges with gardens designed by Architect Safdie. It contains 509 apartments and allows air to move inside the building and daylight penetrating to the

building. Balconies are protruding creating an outdoor space providing a humane and delicate urban fabric. The two skybridges are series of connected streets gardens and areas for recreation, while the third bridge is constructed with a vertiginous swimming pool [6]. The proposed skybridge will be enclosed due to high wind pressure ensuring the safety of visitors.

Figure 5. Skybridges at Sky Habitat, Singapore

Figure 6. Skybridges Connecting 18 Level

In 2009, Beijing China, Linking Hybrid has eight towers connected by covered elevated pathways. It was designed by Stephen Holl. It is a 220,000 square meter development that is open to the public making it an "open city within a city" the ground level is open for all people providing shops, ponds, restaurant, hotel, school and cinema. On intermediate level it has roof gardens. The skybridges are located at 12 to 18 level high above ground. It also incorporates many sustainable features [7]. Here is a sample of a skybridge in 12 to 18th floor. The proposal is visioned to be similar to the said skybridge, an enclosed air-conditioned social space catering employees as its visitors.

Figure 7. Marina Bay Sands Skybridge

Marina Bay Sands Skybridge, Singapore consists of 3 towers of 55- storey hotel connected by a one hectare skybridge. It houses the worlds longest elevated swimming pool holding 376,500 gallons of water. Restaurants, club amenintities, trees and gardens can be seen in the sky park. It also has a cantilevered observatory deck where 360 degree views of Singapore skyline can be viewed [8]. This is one of the most famous skypark in the world but unlike the proposal, this is open air with trees and gardens.

Figure 8. Bridge of Aspirations, UK

Bridge of Aspirations, UK is a twisted aluminum bridge connecting the Royal Ballet School to Royal Opera House. It won awards for being a fully integrated component to the buildings and as an independent element. Consisting of 23 rotating square portals with glazed intervals supported by an aluminum beam. This shows fluidity and grace of dance as it is a bridge for ballerina [9]. The design of skybridge will be also correlated to its neighboring building like Bridge of Aspirations, yet it will be proposed in newly constructed buildings to acquire the needed structural elements.

Figure 9. Petronas Towers

Petronas Twin Towers Skybridge, Malaysia was originally designed as structural support to slide in and out to prevent it from breaking due to high winds. The double decker bridge can be found in the 41st and 42nd floors. It is 170 meters above the ground and 58 meters long. It weighs 750 tons. The floor is also used by visitors going to higher levels that changes elevators calling it Podium. Tickets are being sold when visiting the skybridge of 41st floor while the 42nd floor is only for tenants. There is a 51-meter arch legs bolted to 29th floor that supports the skybridge. It is not connected to the towers, shifting and sliding in and out to counterbalance the wind [10]. This skybridge has tickets where you pay to visit. Unlike the proposed skybridge, it will be freely used by the employees.

Figure 10. Covered Walkway, Calgary Skywalk

Plus 15 in Calgary Skywalk, Canada, are covered walkways 15 feet above ground providing safety during winter to its citizen. Construction started in 1970 and still continues to add skyways to needed streets. It was constructed to provide a secure and convenient environment. Elevated walkways are preferable instead of underground pedestrian system due to high water table and cost of excavation. It was designed by Harold Hanen designing it with protection from winter. In 1984, Calgary has 38 bridges consisting of 8km of walkways with public spaces. Currently there are 62 bridges with 18 km of walkways, with variations of higher level or multistorey. With these the street life diminished in ground level due to the elevated bridges [11]. There are many skybridge in Canada giving protection from winter and summer heat, while the proposed skybridge is constructed to give psychological healing after work located at the building's higher floor level such as 12th and 20th floor.

3. Psychological Effects on a Community

By physically connecting different areas, skybridges can foster a sense of community and belonging, enhancing social interactions among residents. Pedestrian-friendly environments enhance social interaction and safety, leading to more vibrant urban spaces [12]. The benefits of green spaces for mental health are emphasized, as nature can have restorative effects and improve mood. Williams often advocates for incorporating mental health considerations into urban planning policies, encouraging planners to design environments that support psychological well-being [13]. Thus, artificial trees and garden will be provided in the proposed skybridge.

Figure 11. Covered Walkway, Calgary Skywalk

Skybridges often provide stunning views, which can improve mood and overall well-being. Beautiful design can also create pride in the community. Well-designed public areas encourage social interaction and community engagement, which are linked to greater happiness. Environments that promote walking and provide easy access to amenities can lead to improved physical and mental health [14].
Research often examines how urban design elements, like walkability and green spaces, influence mental health and community engagement [15]. A well-designed skybridge can become a landmark, contributing to a community's identity and

potentially enhancing residents' pride and connection to their area.

4. User Perception of Skybridge

Figure 12. Psychological Effects

Many users appreciate the unique architectural beauty of skybridges, which can enhance the skyline and provide a modern touch to urban landscapes containing the architectural significance of skybridges and how their design influences user experience [16]. Urban bridges are often iconic architectural elements that define the city's skyline. Famous bridges, like the Golden Gate Bridge in San Francisco or the Tower Bridge in London, become landmarks that contribute to the city's identity. A well-designed bridge can enhance the aesthetic appeal of the cityscape, creating visual harmony with the surrounding environment [17]. Users often enjoy panoramic views from skybridges, which can enhance their overall experience and create memorable moments. Elevated walkways give people a unique vantage point, allowing them to observe their surroundings from a different perspective. This elevated view can evoke a sense of control and clarity, as pedestrians feel more detached from ground-level chaos or crowding. For individuals with a fear of heights (acrophobia), elevated walkways may induce anxiety, limiting their willingness to use these structures. Walkways without proper safety barriers or those with transparent elements can exacerbate this issue. [18]
If a skybridge becomes too crowded, users might feel frustrated, impacting their overall perception. Efficient design and traffic flow can mitigate this issue. Urban bridges often take on symbolic meanings within a city, becoming focal points for community identity and pride. These structures can serve as gathering places for events, protests, or celebrations, thus shaping the collective memory and cultural significance of the urban space. Bridges can evoke a sense of freedom or possibility by physically linking spaces, symbolizing progress and connection. On the other hand, poorly maintained or poorly designed bridges can contribute to a sense of neglect or separation within a community. Additionally, elevated walkways or bridge designs that emphasize transparency may either inspire a sense of openness or, conversely, induce fear in those uncomfortable with heights [19].

5. Skybridge as Social Spaces

Figure 13. Panoramic View of Makati City

Skybridge spaces embody key values that enhance their part as social environments. It physically connects buildings and neighborhoods, fostering movement and interaction between diverse groups. They provide a way for people to traverse urban landscapes without the disruption of street-level traffic, promoting inclusivity [20].Skybridges can host social events, art installations, and public gatherings, encouraging community bonding. They can serve as platforms for cultural displays and exchanges, enriching the social fabric of the area. Skybridges often become spaces for artistic expression, fostering creativity and collaboration among users. It might explore how bridges serve as gathering places, fostering social interactions and community events, such as festivals or markets [21].

2.1 Description of the Site

Site Context: Ayala Triangle Gardens, Makati City

The location chosen for this qualitative case study was the Ayala Triangle Gardens, an urban park spanning two hectares, located in the center of Makati Central Business District (CBD) in Metro Manila, Philippines. Enclosed by high-rise commercial offices and government agencies, the park became a crucial playground and mental relaxation area for the employees working at the nearby office towers. It was bordered by Ayala Avenue, Paseo de Roxas, and Makati Avenue, the three of the city's financial district's main arteries.
On weekdays, especially between Monday and Friday, the Ayala Triangle hosted a diverse group of guests, majority of them employees from nearby structures. Observations verified that people tended to visit the park after work to relax, have a meal, socialize with co-employees, or simply take a break before being confronted with traffic. The existence of green lawns, trees, shaded walkways, and benches permitted individuals to wind down within a city otherwise characterized by concrete and dense

environments. As argued by Jacobs [22], public green spaces that are accessible are essential in urban planning for the purposes of facilitating emotional recovery as well as social affiliation.

Within the premises of this study, the Ayala Triangle Gardens was a strong real-world context through which user behavior and preferences towards elevated social space could be examined. It acted as a proxy environment in which to conceptualize an equivalent space positioned at high altitude, that is, a skybridge amidst high-rise buildings.

2.2 Skybridge Between Tall Buildings

The proposed design in this study envisioned a skybridge situated at the 20th floor level, connecting two newly constructed high-rise buildings in a similarly dense business district. Unlike existing pedestrian bridges used for circulation or safety, this skybridge will be designed as a destination, a social space elevated above the city.

Figure 14. People Staying at Social Spaces

Importantly, the space was conceptualized as enclosed and fully air-conditioned, addressing common concerns about heat, wind, and safety at high elevations. It integrated design strategies inspired by natural environments, such as artificial trees, garden aesthetics, soft lighting, and calming ambiance, to evoke a province-like vibe in the middle of the city. This approach aligned the environmental psychology, which suggests that exposure to natural elements can promote psychological restoration and well-being [23].

Figure 15 Envisioned Perspective of Skybridge

2.3 Identification of Key Issues

The thematic analysis of data gathered from participants yielded a number of key design-related issues that constrained user comfort, safety, and enjoyment of available public social areas like Ayala Triangle Gardens. These are participant response-derived issues across all research questions, which are the empirical evidence of the suggested design framework for a skybridge social space. Listed below are the found issues according to repeated patterns in qualitative responses.

Issue 1: Ground-Level Parks Are Not Accessible for Long and Frequent Breaks

Findings of RQ1, RQ2, and RQ7 indicated that although most respondents enjoyed the Ayala Triangle Gardens, they thought that it was physically far from their workplaces and, therefore, not convenient for short, impromptu breaks. Most respondents explained that they had to walk a distance, cross major roads, or skip the park altogether because of the lack of time.

P2 stated:

"If the skybridge had plants and peaceful corners, I'd go there instead of walking out to Ayala."

This signified a gap in the availability of immediate, accessible indoor spaces that support mental pauses during work hours. The issue centers on the absence of elevated, integrated spaces within office buildings that offer the same emotional relief as parks.

Issue 2: Weather Exposure and Environmental Discomfort Prevent Prolonged Use of Outdoor Spaces

A prominent theme across RQ3, RQ4, and RQ9 signaled discomfort resulting from exposure to heat, blustery winds, rain, and noise in today's urban parks. Users often shunned outdoor public areas during harsh weather or hot sun times.

Specifically, P1 said:

"*If there's no shade or cooling, I won't stay long.*"

P4 supplemented:

"*I won't stay if it's too sunny or windy, even if the space looks nice.*"

This revealed a significant barrier to usability: current spaces are not climate-sheltered, and users don't have weather-independent spaces to relax, socialize, or work.

Issue 3: Current Social Spaces Lack Functional Amenities That Support Urban Work-Life Needs

Throughout RQ2, RQ3, and RQ10, users complained about the absence of functional infrastructure like tables, group seating, power outlets, and Wi-Fi in existing areas. Field observations at Ayala Triangle showed users occupying ledges or grassy areas because there were not enough benches and group areas.

In line with this, P2 commented:

"*There should be tables where we can eat or work, and outlets for charging phones.*"

Figure 15. Visitors Sit on Ledges

This is an unmet demand for multi-purpose, productivity-capable spaces that accommodate individual and group use.

Issue 4: Height-Related Anxiety and Safety Issues Deter Use of High-Level Public Spaces

RQ5 data showed that although some of the participants were enthusiastic about a skybridge, others were anxious or unsafe at high levels—especially if the structure was open or employed transparent materials.

Likewise, P3 stated:

"*Honestly, I'd stay away from it if it's too high and open. I get dizzy just looking down.*"

Furthermore, P9 reiterated:

"*Glass floors or see-through sides make me afraid of heights.*"

This is a significant psychological obstacle: high areas need to be secure and closed in for consumers to use comfortably. The absence of such designs in current buildings is an obvious problem.

Issue 5: Current Spaces Are Not Suitable for Use in the Evening or At Night

Responses from RQ8 pointed out that many outdoor or semi-public areas become unusable or feel unsafe after sunset due to poor lighting, dark corners, and absence of people.

Specifically, P4 noted:

"I'd feel more comfortable if the corners aren't dark and there's enough lighting near the seating areas."

Figure 16. Ayala Triangle at Night

This presents an issue of spatial exclusion at night, where existing public areas lose functionality due to inadequate design for nighttime safety and ambiance.

Issue 6: Public Spaces Don't Support Sufficient Emotional Rehabilitation and Psychological Wellness

Throughout RQ1, RQ2, RQ7, and RQ10, respondents indicated a desire to have spaces they could use to emotionally recharge, reflect, or temporarily disengage from work-related pressure. Presently, most office buildings and urban open space fail to respond to these therapeutic needs.

In line with this, P1 highlighted:

"*I just need a quiet area where I am not distracted so that I can relax.*"

This indicates a critical design deficit in current urban environments: the lack of small-scale, affective environments that bring psychological relief without demanding complete separation from workspaces.

2.4 Urban Design Principles

The development of a design framework for a skybridge as a social space was informed by fundamental urban design principles based on theory and empirical research. These principles informed the interpretation of the thematic analysis findings and the translation of user requirements into spatial strategies. The derived design principles focused not just on physical form but also psychological function, social behavior, and emotional comfort.

1. Biophilic Design: Nature-Inspired Relief in Vertical Urban Environments

One of the most recurring themes in the findings (RQ1, RQ2, RQ3, RQ7, and RQ10) was the psychological and emotional advantage of natural elements. Respondents often commented on the relaxing effects of trees, plants, gentle lighting, and garden-like environments, even when artificial. This is consistent with biophilic design principles, which posit that adding aspects of nature to build environments can alleviate stress, improve mood, and improve well-being [24].

As put by one participant (P7):

"*Even if it's artificial, if there are plants or calming visuals, it changes my mood*"

Herein, the design principle of mimicking nature by means of artificial trees, planters, green textures, and soundscape became the core of the suggested skybridge's calming environment. In the context of a packed city setting such as Makati, green spaces in

vertical planes are not simply for looks but they are psychologically essential.

2. Third Place Theory: Unofficial Social Spaces Outside Home and Workplace

It was also guided by Oldenburg's [25], Third Place Theory that conceptualizes the third place as a neutral, informal, and open space divorced from home (first place) and workplace (second place). Thematic coding of RQ2 and RQ7 identified that employees lacked informal social sites that were felt to be cozy, relaxed, and emotionally safe.

P3 stated:

"*A skybridge is sort of a common area that isn't super formal. It's more convenient to smile at someone or have lunch with someone there.*"

This concept was practiced by suggesting elements of design like clustered seating, lounges, round tables, food kiosks, and art nooks to encourage incidental, low-stakes interactions between coworkers which turns the skybridge into a micro-community environment for the vertical workplace.

3. Environmental Psychology: Designing for Sensory and Emotional Comfort

Themes of RQ4, RQ5, RQ8, and RQ9 highlighted comfort, perceived safety, and sensory balance as key concerns in elevated public spaces. This is consistent with environmental psychology, which studies how physical environments affect mental well-being, behavior, and user satisfaction [26]. Major environmental design solutions to user issues were:

(1) enclosure and climate control for temperature management and wind protection;

(2) warm, indirect lighting to minimize stress and enhance nighttime safety;

(3) ambiences like gentle ambient music to construct a soothing ambiance;

(4) solid surface and handrails to alleviate acrophobia;

Figure 17. Proposed Enclosed Social Space with Lighting in Seating Areas

(5) zoning patterns to provide spatial choices for solitude and sociability. These items collectively solved the psychological discomfits revealed through the study and converted mental necessities into spatial fixes.

4. Intimacy in Elevated Architecture

Participants highlighted the importance of snug corners, distinct boundaries, and physical softness in seating and materials. This is consistent with the principle of scale and proportion in urban design, which holds that public spaces should be in proportion to human dimensions to be seen as welcoming and usable [27]. To achieve this principle, the design framework suggests:

- Low seating clusters and planter heights
- Soft, tactile materials
- Spatial rhythm that avoids making the space too linear or corridor-like

The intention was to minimize the alienating effect of high altitude through spatial familiarity and closeness.

5. Flexibility and Multi-Functionality in Shared Urban Infrastructure

The thematic results also identified various purposes intended for the space: eating, working, walking, relaxing, and socializing (RQ2, RQ3, RQ10). This indicates the contemporary urban design ethos of multi-functionality, where single space is used to fulfill multiple needs during the day [28]. The design model therefore comprises:

- Plug-and-play workstations with sockets and Wi-Fi
- Café or snack kiosk areas
- Stretch zones or walking routes

This flexibility ensures that the skybridge is not static but responsive to varied user needs throughout a workday.

A. Comparative Analysis

This part contrasted the existing experiences and requirements of city workers who visit Ayala Triangle Gardens with their anticipated use and expectations of a raised skybridge social area. The study was informed by both site observations and thematic findings based on the qualitative feedback of the participants. The results indicated significant discrepancies between existing public areas and user desires for vertical social areas incorporated in high-rise structures.

Ground-Level Parks vs. Elevated Social Spaces

Ayala Triangle Gardens, as an open outdoor ground-level park, provided its users with exposure to nature, informal social space, and emotional respite following work. However, it continued to be disadvantaged by exposure to the weather, location away from some workplaces, and congestion in the rush hour. Respondents articulated that they visited only if time allowed or the weather.

In contrast, participants imagined the proposed skybridge as a comfortable, enclosed, and elevated alternative—directly accessible from inside structures, protected from rain, sunlight, and road noise. The essential difference lay in vertical integration of the space: whereas Ayala Triangle necessitated separating from the work area and stepping into an outside setting, the skybridge would provide instant entry into relaxation and socialization without leaving the building grounds.

"If the skybridge had trees and felt calm like a park – but indoors – I'd use it every day after work," one respondent shared (P1)."

Informal Uses and Behavioral Patterns

Figure 18. Benches, Food Kiosk, and Enclosed Airconditioned Social Space

Participants demonstrated consistent behaviors in Ayala Triangle that matched their aspirations for a skybridge social space.

Observed at Ayala Triangle	Desired in Skybridge (from Thematic Analysis)
Sitting on ledges due to lack of benches	Ample, comfortable seating with backrests
Gathering with peers on lawns	Group seating clusters and round tables
Buying take-out food to eat in the park	Kiosks and food stalls integrated into the design
Staying only until weather worsens	Full air-conditioning and weather protection
Using mobile phones and needing charging	Wi-Fi access and built-in charging ports
Avoiding park at night due to safety concerns	Warm lighting and visible security features

The compatibility with real use and desired features justified the design concepts advanced in the framework. Individuals already exhibited the necessity for micro-break spaces, but the absence of supportive infrastructures tended to compel them to go through makeshift arrangements or curtail visits.

Locational and Emotional Attachment

Survey results showed that while Ayala Triangle was valued for its soothing impact, most participants resided or worked a long way off and had no means of accessing it on a daily basis. Overall, the participants represented a minimum of 15 cities and municipalities, namely Quezon City, Taguig, Pasig, Caloocan, Laguna, and Cavite.

This dispersal validated the possible worth of scalable skybridges constructed in place within workplaces. A vertical, localized park experience would lead to a stronger emotional connection with the workplace setting, as P5 explained:

"You can actually feel like your building cares about your well-being if it has a space like this."

Aesthetic Integration with Skyline Identity

Finally, from both visual and architectural perspectives, the addition of skybridges to Makati's skyline was regarded positively by participants. Respondents viewed it as a symbol of innovation and care-centered design, which stood in contrast to the impersonal nature of many tall buildings. Lighting, form, and branding integration were seen as ways to

reinforce Makati's evolving identity as a modern, people-first city.

B. Results and Findings

To investigate the understanding of urban workers of high social areas, the researcher carried out a qualitative phase by thematic analysis. Data were collected from 10 participants through focused interview questions. Their answers served as an eye-opener for how space, comfort, security, and utility affect the appeal of skybridge social areas. Based on the analysis, 10 major themes emerged, reflecting both emotional and physical considerations: (1) design supports comfort and relaxation, (2) skybridges as usable social spaces, (3) comfort-focused amenities attract users, (4) comfort and safety affect skybridge use, (5) user comfort depends on perceived safety, (6) skybridges can elevate Makati's visual identity, (7) elevated spaces support social and emotional health, (8) lighting and visibility make spaces feel secure and welcoming, (9) preferences depend on comfort, views, and weather, and (10) users prioritize comfort, ambiance, and functionality.

Table 1. Major Themes and Core Ideas on the Perceptions and Preferences Toward Skybridge Social Spaces

Major Themes	Core Ideas
1. Design Supports Comfort and Relaxation	• Preference for green, quiet areas. • Artificial greenery improves mood. • Soft lighting and calming visuals preferred.
2. Skybridges as Usable Social Spaces	• Spaces envisioned as areas to rest, eat, or work. • Viewed as indoor parks in the sky Support for informal social interaction.
3. Comfort-Focused Amenities Attract Users	• Need for Wi-Fi, power outlets, snack stalls. • Comfortable seating with back support. • Clean and peaceful environment important.
4. Comfort and Safety Affect Skybridge Use	• Exposure to wind and heat discourages usage. • Users prefer enclosed and climate-controlled designs.
5. User Comfort Depends on Perceived Safety	• Fear of heights affects usage decisions Glass floors and open sides are intimidating. • Solid, enclosed designs preferred.
6. Skybridges Can Elevate Makati's Visual Identity	• Desire for iconic, photo-worthy structures. • Skybridges seen as part of Makati's evolving skyline and urban branding.
7. Elevated Spaces Support Social and Emotional Health	• Skybridges viewed as emotional reset zones. • Support social bonding and stress relief.
8. Lighting and Visibility Make Spaces Feel Secure and Welcoming	• Warm lighting and visible users increase comfort. • Surveillance and emergency features recommended.
9. Preferences Depend on Comfort, Views, and Weather	• Enclosure preferred over open-air due to weather. • Glass panels appreciated for views if designed with safety.
10. Users Prioritize Comfort, Ambiance, and Functionality	• Top priorities: greenery, Wi-Fi, soft music, seating. • Spaces should balance ambiance with practicality.

Table 2. Summary of Key Findings from Thematic Analysis

Theme	Key Finding	Design Implication
1. Design Supports Comfort and Relaxation	Users want calming, quiet areas with greenery and soothing ambiance.	Integrate artificial nature, warm lighting, and soft, peaceful corners.
2. Skybridges as Usable Social Spaces	Skybridges should be more than pathways—they should be spaces for eating, resting, or working.	Include casual seating, tables, and multi-use zones for breaks and social interaction.
3. Comfort-Focused Amenities Attract Users	Amenities like Wi-Fi, charging ports, and food stalls are essential to long-term use.	Provide tech-ready spaces and practical convenience features to support various user needs.
4. Comfort and Safety Affect Skybridge Use	Exposure to heat and wind limits use of outdoor spaces.	Ensure full enclosure, climate control, and environmental protection for usability throughout the day.
5. User Comfort Depends on Perceived Safety	Fear of height and open structures discourages users.	Use solid materials, enclosed walls, and visual buffers to reduce anxiety and support psychological safety.
6. Skybridges Can Elevate Makati's Visual Identity	A well-designed skybridge can be an iconic landmark and strengthen the city's modern identity.	Use lighting, architectural flair, and artistic features to enhance visibility and branding.
7. Elevated Spaces Support Social and Emotional Health	Users need spaces for decompression, social bonding, and mental resets.	Incorporate restful design zones that encourage brief escapes and informal community interaction.
8. Lighting and Visibility Make Spaces Feel Secure and Welcoming	Poor lighting creates fear; well-lit areas feel safer.	Use warm lighting, passive surveillance, and visibility to promote comfort and nighttime usability.

9. Preferences Depend on Comfort, Views, and Weather	Openness is appreciated, but comfort and weather protection are more important.	Enclose spaces with glass walls to maintain views while shielding from heat, wind, and noise.
10. Users Prioritize Comfort, Ambiance, and Functionality	Comfort and usability go hand in hand; design must meet both.	Prioritize ambiance (greenery, music, lighting) and functionality (Wi-Fi, outlet

Results indicate that urban professionals are seeking lofty spaces in which they can relax, feel safe, and comfortable. Though characteristics such as a view of the city and grass are enjoyed, respondents gave precedence to possessing a covered space that is air-conditioned and a space with a sense of security that feels right emotionally. Participants desire a place that is capable of serving them for routine activity such as eating, working, resting, or socializing and yet quiet, relaxing, and safe.

These findings lay the groundwork for the following chapter, in which a design framework is presented based on what users actually need and perceive. Through the application of these findings to the layout, structure, and ambiance of the suggested skybridge, the design seeks to resolve the human-centered issues uncovered in this research.

C. Implications for Urban Design

The findings from this study reveal significant implications for how urban design can better support elevated social spaces, especially those integrated into high-rise environments like Makati's central business district. While skybridges are typically viewed as functional connectors, this research reframes them as psychosocially restorative, flexible, and symbolic urban places.

Below are the primary implications for urban design based on the thematic findings:

1. Human-Centered Vertical Infrastructure

The study emphasizes that urban workers require accessible vertical "pause zones" in addition to circulation routes. When combined with sensory and emotional design components, enclosed skybridges can function as high third spaces that encourage social engagement as well as social interaction. The potential of vertical infrastructure as a public place that is focused on the community should be acknowledged by urban planners and designers.

2. Environmental Psychology as Design Foundation

Participants consistently stressed emotional safety, visual tranquility, and restorative sensory inputs. This indicates that environmental psychology should lead spatial programming, particularly in high-altitude environments where fear, discomfort, and detachment are potential threats. Skybridge design should take into account the following:

- Enclosure and transparency balance
- Sensory ambiance (music, lighting, greenery)
- Psychological thresholds (transition from work stress to calm environment)

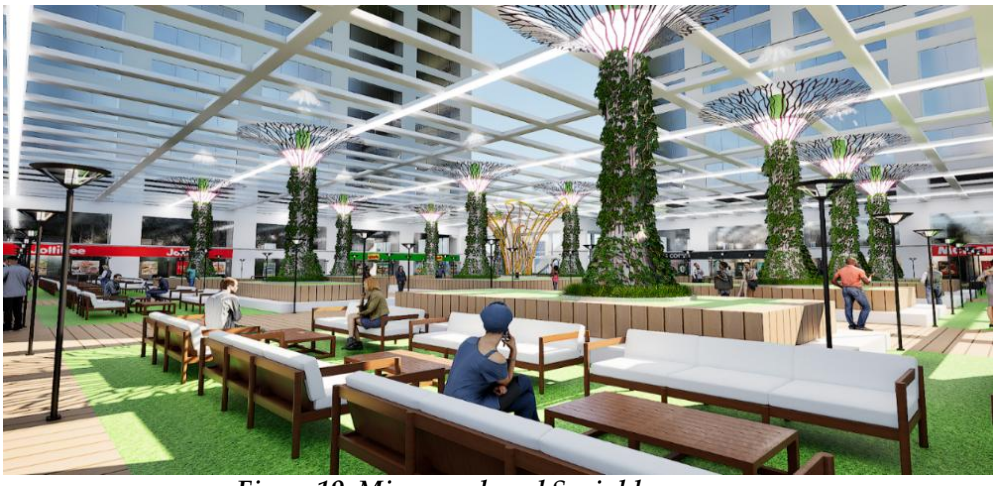

Figure 19. Micro-park and Social lounge

3. Multi-Functionality in Compact Urban Zones

Urban design within dense sections should encourage multiple functionalities within limited areas. The most effective skybridge, according to findings, serves as:

- A co-working station (Wi-Fi, power)
- A micro-park (green zones, seating)
- A social lounge (tables, food kiosks)

4. Safety as Spatial Comfort

Concerns about perceived safety frequently surfaced, particularly in relation to exposure and height. This demonstrates that psychological cues are just as much a part of urban comfort as physical ones. Skybridges ought to include:

- Opaque flooring
- Protective railings and buffers
- Lighting design that avoids harshness but increases visibility

5. Visual Identity and Landmark Integration

Respondents viewed an ideal skybridge to become a landmark in Makati's skyline. Integrating architectural identity into connective infrastructure is a larger urban design possibility that is reflected in this. Skybridges can maintain their practicality while adding to urban branding through facade treatment, illumination, or cultural identifiers.

A. Design Proposal

Human-Centered Skybridge Social Space Framework

This design proposal presents a human-oriented approach to designing skybridges as raised social spaces. In light of the thematic conclusions of this research, the designed response addresses the emotional, psychological, and practical requirements of city workers in high-rise buildings. Instead of merely being an access link between buildings, the skybridge is conceptualized as a "pause space"—a blend of a resting place, an area of interaction, a place of productivity, and a source of well-being.

Design Objectives:

1. To create a comfortable and climate-controlled elevated space that promotes relaxation and stress recovery.
2. To integrate user-friendly amenities such as Wi-Fi, power outlets, food kiosks, and flexible seating.
3. To support psychological and emotional safety through enclosure, soft lighting, and sensory ambiance.
4. To establish a recognizable and visually striking structure that contributes to Makati's skyline identity.
5. To provide a multi-use layout that accommodates both solo and group activities during and after work hours.

Figure 20. Comfortable Seating with Backrest

Framework Highlights Based on Thematic Findings

Thematic Insight	Design Response
Comfort and relaxation are top priorities	Use warm lighting, calming textures, artificial greenery, and soft music to promote emotional calm.
Users want usable, functional spaces—not just aesthetics	Include seating clusters, tables, Wi-Fi zones, and snack kiosks for both relaxation and work-related use.
Climate control and enclosure increase time spent in space	Design the skybridge as **fully enclosed and air-conditioned**, with filtered ventilation and glass panels.
Fear of heights affects usage	Avoid glass floors, use non-transparent walkways, provide safe railings, and buffer zones.
Iconic design can shape identity	Incorporate facade lighting, visible branding, and artistic elements to position the skybridge as a landmark.
People need decompression zones during work hours	Allocate corners with lounge chairs, individual pods, and shaded solo spaces.
Nighttime safety is critical	Use warm LED pathway lighting, CCTV, emergency call buttons, and promote gentle nighttime activity.
Comfort varies by weather and time of day	Combine shading, insulation, and passive cooling systems in daytime with ambient features for evenings.
Flexibility is essential	Provide movable furniture, modular seating arrangements, and convertible zones for eating, chatting, or stretching.

Functional Zones Within the Skybridge Framework:

- **Lounge Zone**
  - Cozy seating with soft materials
  - Quiet corners with greenery and personal space
  - Background instrumental music
- **Social Cluster Zone**
  - Circular or group tables for bonding or short meetings
  - Surrounded by ambient lighting and accessible food kiosks
- **Work Nook Zone**
  - Bar-height counters with charging ports and Wi-Fi
  - Calm lighting and minimal distraction
- **Walk and Stretch Pathway**
  - A linear trail pathway inside the bridge
  - Benches along the way and wall art or info panels
- **Sensory and Landmark Features**
  - Glass-panel viewing windows (safe, non-floor)
  - Interactive LED panels or city branding visuals
  - Artistic lighting and sculptural features

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