Spatial Quality of Safe Houses for Domestic Violence Survivors

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Introduction :
Numbers of domestic violence cases increased during COVID-19 Pandemic

From 319 cases of violence that had been reported during the pandemic, two thirds of which were cases of domestic violence
Local government has provided safe houses for women and children who are survivors of domestic violence. Safe houses are generally managed as a non-profit public sector. It is considered as low-cost housing, therefore floor area per occupant tends to be limited. The current designs are usually based on practicality and ease of maintenance rather than healing purposes (Dandekar, 1993).

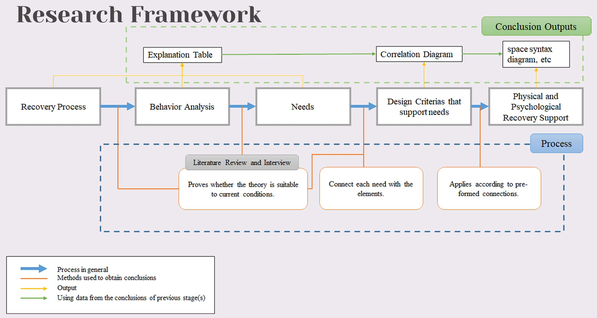
Source : Indonesian National Commission on Violence Against Women (*Komnas Perempuan: KDRT Meningkat Selama Pandemi Covid-19, Mayoritas Korban Bungkam*, 2020)

Objectives

Based on the formulation of the existing problems, this study aims to:

1. **Identify** the physical and psychological needs of survivors and the kind of spatial quality that can support the recovery of residents
2. **Analyze** what kind of architecture provides sense of security to survivors and its influence on survivor behavior development.
3. **Create** design strategies that provide a sense of security for survivors which impacts survivors' behavioral development while in a safe house

Research Framework



Literature review method is used in order to find the needs of domestic violence survivors and to identify design criteria that support those needs. Then the criteria are applied into design strategies, which are then developed further using inputs received from a designer who have experience on designing a safe house. Lastly, domestic violence survivors are interviewed to confirm if the needs and strategies found on literature reviews are applicable as safe house design characteristics.

Literature Review
Survivors' Behavior and Needs Analysis

1. The acceptance phase, where the survivor has just arrived. In the first few weeks they have many emotional and physical needs. Therefore, in this phase the survivors have a high intensity of meetings with workers.

2. The second phase is where the survivors begin to feel secure and try to rebuild and test their own boundaries. Apart from that, this phase is also seen as an opportunity to explore new freedoms.

3. The awareness phase, survivors are more competent to pay attention to themselves and their situation, the resources available to them, and what they want to do next. In this phase, the survivors generally begin to express their feelings in ways such as talking to other residents, workers, counselors, as well as volunteers.

4. The final phase is the phase in which the survivors and the workers accompanying them begin to prepare to leave the safe house (Abrahams, 2007).

Several provisions exist to optimize the use of safe houses as facilities for the physical and psychological recovery of survivors. High-quality and well-maintained accommodation, adequate security measures, bedrooms with privacy, private bath facilities, shared kitchens, communal areas, quiet rooms for interviews and counseling, easy access to workers, and small-scale safe houses (Abrahams, 2007). It can be concluded that the needs of survivors can be grouped into five groups, namely:

A. Certain **ambience characteristics**;

B. **Spatial arrangement** that enhance intensity of the meeting;

C. Promoting certain **safety** criteria;

D. Maintaining certain level of **privacy**; and

E. Creating certain level of **flexibility**.

The group of needs will be linked to design criteria that can support recovery.

Table 1. Design characteristics by survivor recovery stages

Stages	Description	Characteristics	Needs
Acceptance	The crucial phase. Helping survivors settle down and feel comfortable after the attempts made after escaping. Administrative procedures are brief and prioritize the most critical ones.	The first impression is welcoming, homely and not too institutional. But not too domestic either so that survivors don't remember the rough times in their previous homes.	Specific ambience characteristics
	The first weeks of survivors in a safe home have many emotional and physical needs and demands.	Higher intensity of meetings with workers to support survivor recovery	Spatial arrangement that enhance intensity of the meeting
	Survivors are still shrouded in fear of being found by perpetrators of violence	High level of security and concealment	Certain level of security and privacy
	Survivors need time to feel mentally safe and comfortable with safe house procedures and begin to put their trust in safe homes	Needs of time and space for reflection	Certain level of privacy
Feeling Secure	Survivors begin to feel safe and begin to test to what extent the boundaries and rules that were previously prohibited by the perpetrators.	Exit access can be considered	Certain level of flexibility
	The desire to interact with other residents to support each other and hear the experiences of previous residents.	Higher intention to meet other residents	Spatial arrangement that enhance intensity of the meeting
Awareness	Survivors are better able to cope with themselves and their situation, the resources available to them and to think about what they want to do next.	Survivors can choose which access is safer according to themselves.	Certain level of flexibility
	Survivors want to learn new skills	The need for communal spaces that are open to residents as well as outsiders (the community)	Spatial arrangement that enhance intensity of the meeting
Preparing to leave	Prepare to support their lives outside the safe house	The intensity of encounters with workers outside the psychological field increased.	Spatial arrangement that enhance intensity of the meeting
	Setting up an Individual Support Plan	It takes time to digest and learn what is needed independently or with the help of workers	Certain level of privacy

Source : summarised from Abrahams, 2010

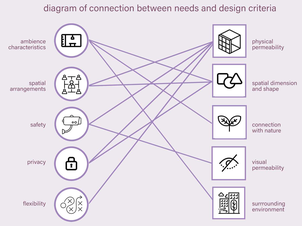
Design criteria to accomodate healing

Several design criteria influence the physical and psychological recovery of humans. The application of design strategies can potentially create ideal spaces that not only physically protects survivors of domestic violence but also develops survivors' readiness to return to society. Each strategy presents design criteria that should address the needs of the survivor.

The five design criterias are :

- **Surrounding environment,** is a variable that can be perceived by other sensory aspects other than visual (Andritsch et al., 2013);
- **Physical permeability** created by the building has a role in shaping society;
- Security and privacy regarding **visual permeability**;
- **Spatial dimension and shape**, as the most rigid or space-forming elements to change among other elements, has a significant effect on defense capabilities (Sommer, 1969);
- **Connection with nature** related to physical and psychological recovery (Heerwagen, 2006; Ulrich, 1984).

diagram of connection between needs and design criteria



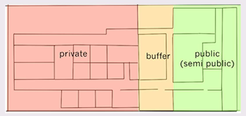
Connection between needs and design criteria

If concluded, the design criteria that can support physical and psychological recovery include the surrounding environment, physical permeability, visual permeability, connection with nature, and the shape and size of space. For physical recovery, the supporting criteria are physical permeability; and spatial dimension and shape. Meanwhile, for psychological recovery, the supporting criteria are all the criteria listed above.

Interview

An interview was conducted witha designer who participated in a safe house project. In this interview the author got information about what design strategies were implemented in the project to ensure safety and recovery for survivors.

Sumba safe house is a safe house designed for victims of sexual violence for teenagers and children. This project was built due to the high sexual crime rate and the culture that considers the victim a family disgrace, so that many victims are evicted by their families.



zoning

circulation map

The design strategy applied here is the division of space which is broadly divided into three parts, namely the general zone, the buffer zone and the private zone. For preventive measures against external threats, this safe house does not have a very closed/protective element because the location of this Safe House is located in the local area office complex which is the place for complaints of violence.

Precedent Study

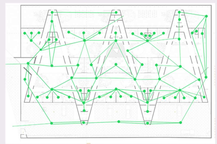
Precedent studies were conducted to determine the design strategies used by existing safe houses that can support the physical and psychological recovery of survivors. Two precedents were chosen to study what aspects they have and whether the aspects that have been concluded in the literature review are contained in these precedents. A matrix composed of survivor needs and architectural elements supporting recovery will be used to analyze both precedents.

***Refugio para Mujeres Victimas de la Violencia,* Uruapan, Mexico (source: ORIGEN 19°41' 53" N, Gordoa, 2017)**

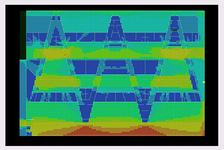
This one-story building intends to determine the significance and function of its protection against survivors by making the architectural elements fluid.

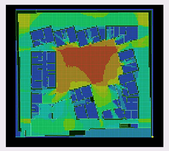
The Ada and Tamar De Shalit House, Tel Aviv, Israel (source: Sumber : Goldreich, Geron, 2018)

The main concept of this safe house is a tough, safe, and protective exterior, and a soft interior facade, centered on the courtyard, and focused on healing.



Circulation map





plan analysis using DepthMap X

The criteria obtained from the precedent study are:

1. Wall around the site prevent illegal entry of people. Small, unobtrusive gates to not attract attention and still maintain a high level of privacy.

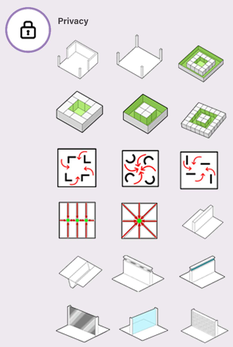
2. Spaces with high privacy requirements have small dimensions and are placed on the edge of the site. Gathering place has a larger area and simpler access and is located in the middle. So that the interaction that occurs will be more in the center area of the site.

3. The more layers of room, the higher the level of privacy achieved and vice versa.

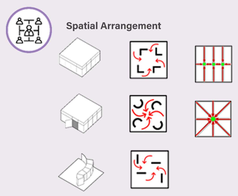
4. The position of the window that can still provide sunlight, maintain a level of privacy, and does not make the survivors feel intimidated can be achieved by placing the window higher and layering a one-way film.

Result and Conclusion

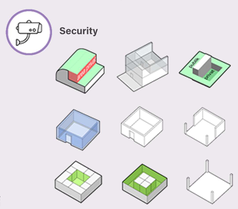
Partial design strategies based on the needs of survivors



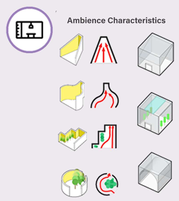
Spatial form and placements of function and circulation areas are the strategies. Then the use of transparent materials on one side, such as the use of one-way film



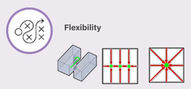
Low intensity entrance is camouflaged with the surroundings. For high-intensity encounters, access is made as much as possible and centered on one or several points.



Placing space vertically according to the level of security required. Then there are also differences in materials and openings, as well as circulation.



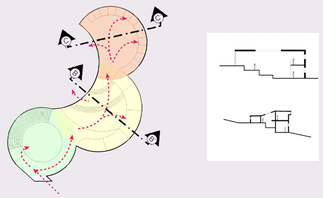
Reception room that contrasts with the outside area, either with the height of the room or various shapes.



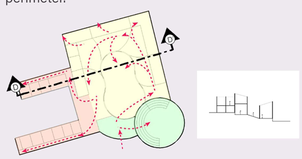
A room flexiblity depends on the intention of the room. Rooms that have a high level of flexibility tend to have high spatial permeability.

Conceptual Design Alternatives

From previous theories and partial strategies, we construct two conceptual alternatives.

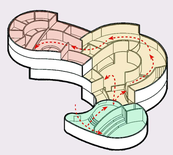


Alternative 1 : Zoning is divided into three areas, with the living area away from the reception area. The common room is a semi-open place that wants to incorporate natural elements into the space. The floors are terraced and consists of 2-3 floors that have their respective functions on the perimeter.



ALternative 2 : the middle area of the common room is a garden and around it is a large staircase that continues to rise following the contours of the land until finally arriving at the living area.

Schematic Design



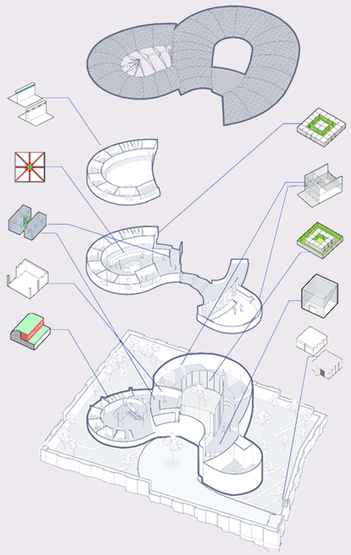
For the gate, using camouflage strategy by matching the pattern of the wall with the entrance

then for the circulation area between the function areas it is placed in a private area, while for functions located in the middle of the circulation, it is applied in the common room or semi-private area.

semi-open applied in the kitchen and dining room, and the mass area hidden on the ground is on the ground floor of the private area

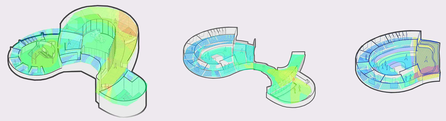
There are two entrances to the private area, namely below and above. Entrance is located behind the circulation to be hidden.

2-way film layers are placed in almost all corners, especially in private areas to maintain privacy from survivors, then areas that maximize gatherings are located in the middle (2)



Visibility and permeability test using DepthMap X

The plan is evaluated using The DepthMapX Software. In this program, if the color is getting bluer, the permeability is lower and vice versa. Floor plan analysis proves that strategies applied to the design have succeeded in creating layers of surveillance and privacy that are subtle and not intimidating. Result shows that the physical and visual permeability of the design is achieved. The design strategy still needs to be tested further in a real-life setting in order to prove its validity.



Conclusion

Spaces with architectural expressions that can provide a sense of security and freedom for survivors can be realized by analyzing the needs of survivors, matching them with responsive design criteria, and designing several strategies based on these and integrating them in the final design. The limitation of the research is that the search for data cannot run optimally due to large-scale social restrictions that are taking place making it difficult to obtain data directly from safe houses. Furthermore, this research will be used as a basic design guide for safe houses.

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