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Understanding the Built Environment of Shelter Homes for Survivors of Domestic Violence

Rutali Joshi

Clemson University, rjoshi@g.clemson.edu

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UNDERSTANDING THE BUILT ENVIRONMENT OF SHELTER HOMES FOR
SURVIVORS OF DOMESTIC VIOLENCE

A Thesis
Presented to
the Graduate School of
Clemson University

In Partial Fulfillment
of the Requirements for the Degree
Master of Science
Architecture

by
Rutali Joshi
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Accepted by:
Dr. Anjali Joseph, Committee Chair
David Allison
Dr. Dina Battisto
Dr. Diane Perpich
Dr. Sara Bayramzadeh

ABSTRACT

Across the world, 20-25% of all women are victims of domestic violence or abused by their partners. Survivors are abused where they should be the most secure their own homes. In such situations, they turn to shelter homes for safety and security. There are around 1,800 shelters programs across the entire United States (National Network to End Domestic Violence, 2015) but are often crowded, involve communal living, offer little or no privacy, and include numerous restrictions that come with such a living condition. The spatial qualities and setting of shelter homes should have a positive impact on health, recovery and wellbeing of the survivor, but it is clearly evident in the literature that the existing facilities do not promote healing. The aim of this study was to explore qualities of the physical environment of shelters that influence and support the survivors in recovering from this traumatic experience.

Four facilities were identified within the state and a study conducted to understand needs of the victims, the problems they face, their perspective, services offered in the shelter homes, and the behavioral implications of the built environment on the residents through surveys, interviews and observations. Each facility was assessed based on the design objective derived from the literature (framework of dignity comprising of safety and security; privacy and control; and comfort). The study focused on defining the objectives, developing a set of design considerations, and creating a toolkit for studying the design of shelter homes.

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Rutali Joshi

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Chapter 1

INTRODUCTION

Introduction

“Domestic violence or intimate partner violence is a pattern of assaultive and coercive behaviors including physical, sexual and psychological attacks, as well as economic coercion used by adults or adolescents against their current or former intimate partners.” (Unicef 2006)

The National intimate partner and sexual violence survey has reported that around one in four women in the United States has experienced physical violence by an intimate partner during her lifetime (Black, 2011). Violence against women exists in every society, and encompasses different forms of physical, sexual and psychological abuse. It is one of the most pervasive of human rights violations, denying women and girl’s equality, security, dignity, self-worth, and their right to enjoy fundamental freedoms (Kapoor, 2000).

Violence in relationships occurs when one person feels entitled to power and control over their partner and chooses to use abuse to gain and maintain that control (VanNatta, 2010). Abuse is cyclical (as shown in figure 1.1). There are periods where things may be calmer, but those times are followed by a buildup of tension and abuse, which usually results in the intensified abuse. The cycle then often starts to repeat, becoming more intense as time goes on. Some abusers may cycle rapidly, others over longer stretches of time. Regardless, abusers purposefully use numerous tactics of abuse to instill fear in the victim and maintain control over them. When abuse victims are able to

safely escape and remain free from their abuser they experience emotional, behavioral, and social, as well as post-traumatic stress symptoms (Chanmugam, 2011; Galano, Hunter, Howell, Miller, & Graham-Bermann, 2013).



Figure 1.1. Cycle of abuse

They often survive with long-lasting and sometimes permanent effects to their mental and physical health; relationships with friends, family, and children; their career; and their economic well-being. Survivors are abused where they should be the most secure; their own homes. In such situations, they turn to shelter homes for safety and security. Domestic violence shelters provide a safe haven for women who flee from their abusive partners. Most of the existing shelter homes provide an array of services like legal, psychosocial, health, mental health, employment, and academic needs (Lyon, Lane, & Menard, 2008; Tutty, 1999). But the challenges faced by women who use shelters are

complex, and the barriers women encounter as they attempt to live free of violence are difficult to overcome. In order to provide the best possible assistance to women using shelters, it is important to understand the journey of women from being victims to survivors and the complex needs of these women (and their children). Previous studies about domestic violence have focused on victims' mental health needs as well as emergency shelter policies, procedures, and programs (Campbell & Lewandowski, 1997). However, the built physical shelter environment in which these wide-ranging needs are met, has been minimally considered in the DV literature as a means to increase well-being of violence survivors (Griender & Chanmugam, 2013). This study builds on previous studies but focuses on the impact of design elements within the built environment on the DV victims and their relationship with the built environment.

The theory of “Environmental Press” developed by M.P. Lawton (figure 2.2) illustrates the relationship between the built environment and the competence of an individual (Nahemow, Lawton, & Center, 2016). According to this theory, the ability of a person to adapt to their environment depends on both their level of competence or abilities and the level of environmental press (challenge posed by the environment). Optimal fit occurs when one’s capacities of adaptability are consistent with the demands of the person’s environment. Only if there is a balance between these two components, can the environment have a positive effect on the person. It is clear from this theory that the physical environment of a shelter has the potential to play a role in offering residents a place for respite, action, and change during their time of crisis.

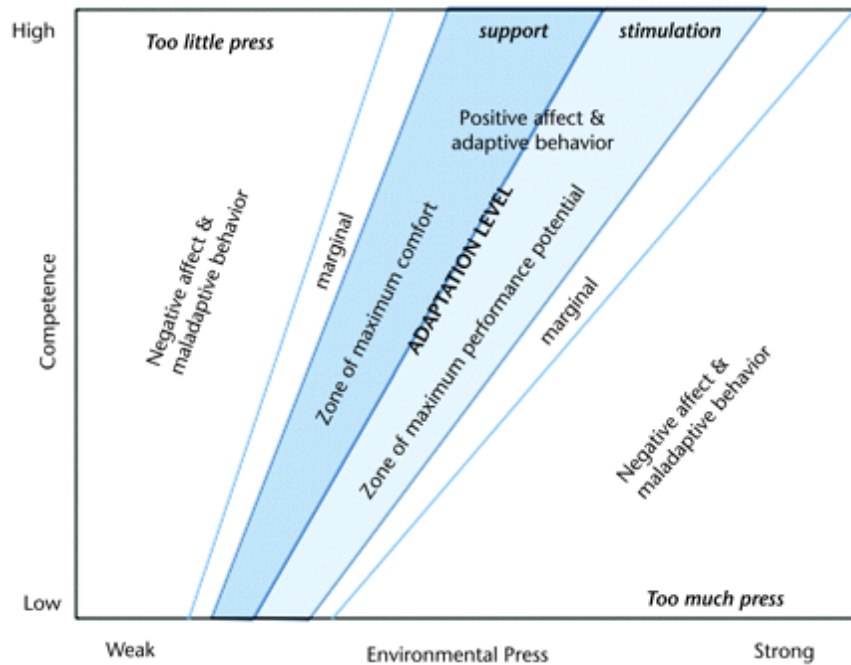


Figure 1.2. Environmental press theory (Nahemow, Lawton, & Center, 2016)

Problem statement

There are around 1,800 shelter programs across the entire United States (National Network to End Domestic Violence, 2015) but these are often crowded, involve communal living, offer little or no privacy, and include numerous restrictions that come with such a living condition. Adults in Prestwood's (2010) study used the word "*prison*" to describe aspects of their shelter experience. Even if women report the shelter experience as being helpful, it is not always clear what aspects of the experience contribute to that assessment (www.dvevidenceproject.org). The built environment has an important impact on health and well-being but, architecture and design are typically not the first elements considered

when deciding how to provide for the victims of domestic violence who have become homeless.

Purpose

This research and exploration of shelter housing aims at improving the shelter experience and lives of those who use these spaces. Domestic violence shelters should allow women to escape to safety, gather the resources necessary to begin a new life, and take the opportunity to heal physically, mentally, and emotionally (Rutledge, 2015). The purpose of this research (figure 1.3) is to create a framework that can be used as a basis for exploring the qualities of the environment of a DV shelter and to understand how the design of such facilities affects the survivors in a therapeutic manner and supports them in recovering from their traumatic experience and returning to a state of consensus and balance with dignity. The study will derive design suggestions from the literature and the case studies.

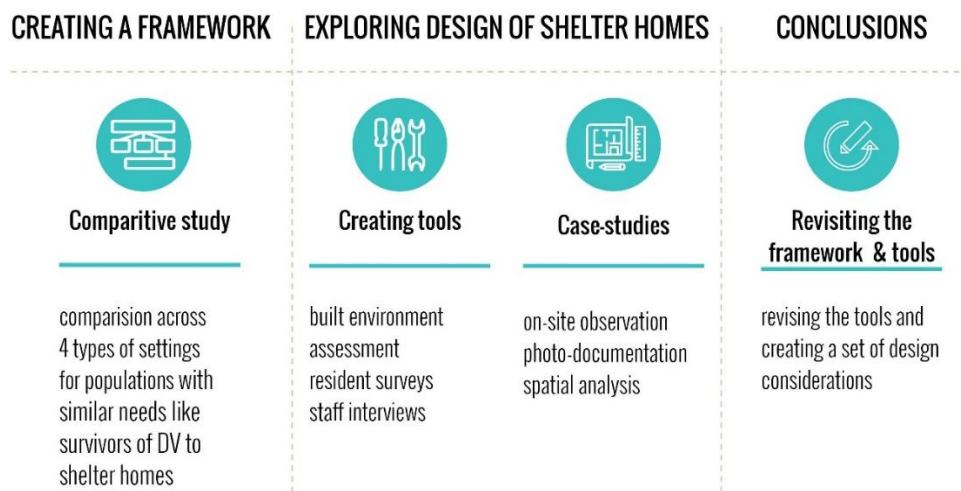


Figure 1.3. Purpose of study

Research question

What aspects of the design of a shelter homes that are supportive and therapeutic in nature for the victims of domestic violence?

Operational definitions

Domestic Violence (DV) is a pattern of abusive and threatening behaviors that may include physical, emotional, economic and sexual violence as well as intimidation, isolation and coercion. The purpose of domestic violence is to establish and exert power and control over another.

Domestic violence shelter home is a physical building housing victims of domestic violence who have left their abusers (Rutledge, 2015). Shelters offer counseling services and other resources to people escaping imminent danger due to domestic violence to heal from trauma and establish goals towards self-sufficiency. For the purpose of this study, the shelters discussed are for women and children who are victims of domestic violence and will often be referred to simply as shelters or facilities.

Survivors of domestic violence: People who are trapped in an abusive relationship, and are captive to the mental and emotional torture by the abuser are victims of violence. A survivor is a former victim who has made a commitment to get rid of the perpetrator and move on to an improved lifestyle. Survivors staying in the shelter are referred to as residents or clients in this study.

Framework of Dignity: Framework is a skeleton upon which a set of design considerations is built. In this case, the framework of dignity is the roadmap to designing shelter homes in a manner that they help the residents to return to a state of balance with dignity.

Chapter 2

LITERATURE REVIEW

Understanding domestic violence

Grassroots community activists in the 1970s sought to help women in violent relationships by creating safe temporary places for them to stay, resulting in emergency shelters as one of the first forms of domestic violence intervention. With the first shelter in St Paul, Minnesota in 1973, to the several existing shelter programs supported by various government or private funds and Housing and Urban Development (HUD), FVPSA, FEMA, McKinney-Vento act for transitional and permanent housing, to name a few there has been tremendous effort put in to make surviving through the nightmare of domestic violence and abuse bearable for the victims.

In spite of these efforts and the work of advocates against Domestic violence like the National Coalition Against Domestic Violence (NCADV), the National Center on Domestic and Sexual Violence (NCDSV), and the National Network to end domestic violence (NNEDV) that act as catalysts to create a changed culture where domestic violence is not tolerated, violence against women and girls continues to be a global epidemic that kills, tortures, and maims – physically, psychologically, sexually and economically. It is pervasive across all countries, cultures, ethnicities, age groups and societies. The purpose of domestic violence is to establish and exert power and control over another. The power and control wheel (figure 2.1) explains the pattern of actions that an individual uses to intentionally control or dominate his intimate partner (Johnson &

Ferraro, 2000) A batterer systematically uses threats, intimidation, and coercion to instill fear in his partner.



Figure 2.1. Power and control wheel.
 Domestic Abuse Intervention Project, 202 East Superior, Duluth, MN.
<http://www.duluth-model.org/documents/PhyVio.pdf>

Population affected by domestic violence

Domestic violence occurs at all familial levels—between couples, in parent-child relationships, sibling relationships, and oftentimes, dating relationships (Payne & Wermeling, 2009). A majority of the victims are women, although men can also be victimized. The impact of the abuse is likely to be greater for women than men, both emotionally and physically (Grovert, 2008). Women are at far greater risk of serious and lethal abuse at the hands of their male partner than men are at risk from their female partner. Children may also be significantly affected by living with domestic violence (Holt, Buckley, & Whelan, 2008).

Consequences of domestic violence

Chronic exposure to DV and the stress resulting from this exposure not only cause physical injury but can have a serious impact on the mental health of the victim. Mental disorders observed through the process are referred to as post-traumatic stress disorder (PTSD).

An estimated 1,500 women are murdered by their husbands or partners each year and even more women are beaten, tortured, and emotionally and psychologically abused (Rutledge, 2015). Women are slammed against something, strangled or suffocated, beaten, or stalked by a current or former partner (Sullivan, 2012). The victims often suffer from injuries that include bruises, broken bones, burns, cuts, internal bleeding, concussions, or permanent handicaps (Rutledge, 2015). It leads to far-reaching physical and psychological consequences, some with fatal outcomes. Immediately after an episode of violence, the victims often undergo pre-impact terror that is guilt about how they should or should not have responded to the attack. Complex feelings of grief, helplessness, isolation, uncertainty, injustice, shock, disbelief, confusion, anxiety, crying, and irritation creep in. A few weeks following the escape, if they do escape, there is fear, anger, embarrassment, self-blame, negative or poor self-image, shock, humiliation, mood swings. Readjustment phase is the time when victims may face suicidal tendencies and/or substance abuse (victim may take to alcohol or drugs) (Black, 2011; Campbell & Lewandowski, 1997). This is followed by a recovery phase in which there might be flashbacks, depression, anxiety, eating disturbances, insomnia, tension, headaches, and emotional turmoil. Depression and dissociation are the most common symptoms exhibited by the survivors of DV. The

consequences of domestic violence can linger far beyond the attack and full recovery may take months or years. Recovery does not necessarily mean complete freedom from post-traumatic affects but generally it is the ability to live in the present without being overwhelmed by the thoughts and feelings of the past.

Journey and needs of a survivor

Research shows that if a victim chooses to leave an abusive situation it takes multiple attempts, and therefore causes multiple periods of homelessness, before the victim actually escapes the cycle of violence (National Coalition against Domestic Violence, 2011). The most common reason charges are not brought against an abuser is fear of retaliation coupled with the victims belief that law enforcement will not be supportive (Payne & Wermeling, 2009). Women may be more likely to stay in an abusive relationship if they are financially dependent on their partner, have children with their partner, or have been in the relationship for a long period of time (Galano et al., 2013). Researchers have examined the survivor theory which states that women who have been continuously abused seek out ways to survive their conditions by persisting through adversity and adapting to their situation (Collins, 2010). Additionally, domestic violence does not always end when the victim escapes the abuser, tries to terminate the relationship, and/or seeks help. Often, it intensifies because the abuser feels a loss of control over the victim. Abusers frequently continue to stalk, harass, threaten, and try to control the victim after the victim escapes (Johnson & Ferraro, 2000). The journey of a victim of violence was mapped through the interviews with staff of a domestic violence shelter home, to understand the difficulties and needs of women in such situations (figure 2.2).

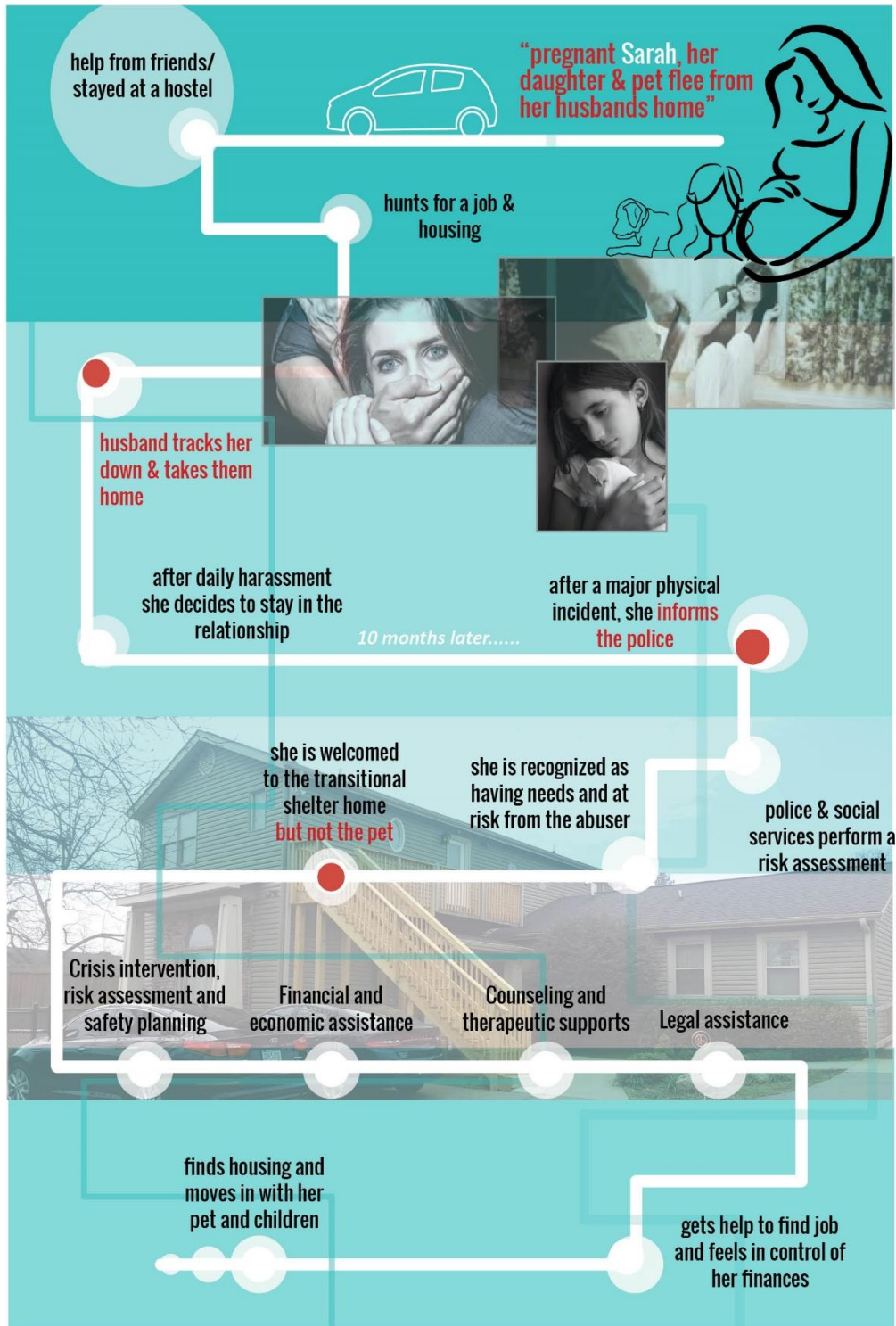


Figure 2.2. Journey of a victim

The journey after having left the abusers house becomes challenging, attributable to the sudden change in circumstances, the difficulty in seeking shelter, managing the legal and advocacy procedures and attending to their children (Lyon et al., 2008). Most often, the provision for survivors or victims is about supplying them with the basic resources to survive: food, water, and roof over their head and clothing to wear (Kopec, 2006). Only after meeting, basic needs can a victim of domestic violence focus on finding employment, permanent housing, and achieving empowerment or self-actualization (Maslow, 1970; Rutledge, 2015). This agrees with Maslow's (1970) Hierarchy of Needs, which states that a person must first complete the first level of the hierarchy of physiological needs before moving up the pyramid to attend to needs that are more abstract. Lyon et al. (2008) emphasize the fact that domestic violence shelters address needs that cannot be met elsewhere. They provide individual advocacy, crisis intervention and safety planning, medical treatment for immediate and long-term consequences of violence (i.e. those resulting from violent injury, effects of trauma, chronic distress and/or restricted access to health care by their abusers). Apart from this they also offer counseling and therapeutic supports, legal assistance and advocacy related to protection from the offender. Domestic violence shelters and the services these facilities offer can have a large impact on residents during this time (Shostack, 2000; VanNatta, 2010).

Architecture for survivors of domestic violence

In general, shelter accommodation may be categorized as follows:

- Emergency shelters
- Transitional (2nd stage)

- Third stage Housing

(Tutty, 1999).

Emergency shelters provide short or medium term accommodation for women with or without dependent children. The duration of the term is up to 90 days. The shelter provides services like provision of household and personal goods, counseling, referrals, individual advocacy, safety planning and follow-ups.

Transitional housing offers long term stay and assist women and their families in the transition from emergency shelter to permanent housing (Correia & Melbin, 2005). The duration of stay is generally from 90 days to a year. These units have increased security measures.

Long term/permanent housing maybe available for women who have completed a second stage program, but still need subsidized housing and support in the community. They could also be permanent housing for some to address specific needs like disabilities, substance abuse or mental illness. Because they are a part of the public housing system, security measures are not very stringent though the residents are provided with community-based resources through housing initiatives and emotional and legal support whenever required.

Apart from these three forms of shelters, there are several alternative sources of shelters like safe homes, emergency safe spaces, and confidential private accommodation or sanctuary schemes.

- Safe homes or networks: which are private residential spaces made available by community members on an emergency and temporary basis (1-7 days).

- Emergency safe spaces, which may be developed in a variety of locations (example: hotels, hospitals, faith-based institutions like churches, mosques, temples)
- Confidential private accommodation, such as community housing facilities (i.e. apartments)
- Sanctuary schemes, which incorporate security measures within a woman's home and remove the perpetrator, provide an alternative option in some domestic violence cases, and enable her to remain in her home rather than seeking safe accommodation in a new location (Tutty, 1999)

This study focuses on emergency shelter homes that provide short or medium term accommodation for approximately 90 days. The positive design of facilities that support survivors of DV may be helpful in assisting women in returning to normalcy with dignity in the future. But architecture and interior of DV shelters has not received much attention in spite of the conflict in elements: externally focused high security and comfort within for residents (Grieder & Chanmugam, 2013). A 14-year-old in Chanmugam's (2011) study voices the irony of a victim of violence perceiving himself as living in a prison-like facility.

“You put bad people in gates and cages. To keep the good people from getting hurt. Yet you are putting good people in cages [in shelters] so bad people won't hurt them. It's like you are putting the bad people out and putting the good people in.”

With security from violent abuse perpetrators as a foremost concern in shelter design, providing psychological comfort to individuals in crisis is being overlooked. There is a need to strike balance between these needs of security and surveillance versus privacy and comfort; safety of residents versus control of residents over the environment of the shelter.

Creating a framework of dignity

Core components of healing, recovery and well-being have been researched in settings with similar needs for security and comfort, for example, behavioral health facilities, and shelters for the homeless. Residents in any of these facilities or shelters are often in mental and sometimes physical crisis, and thus may question their identity. Understanding how the physical environment affects an individual's sense of identity, worth, dignity, and empowerment is essential for designing supportive and healing environments for trauma-experienced residents or clients. Many of the issues related to the impact of the physical environment of DV shelters on residents— such as crowding, stress, privacy, control and safety – are similar to those in other environments for marginal populations like psychiatric and mental health facilities and homeless shelters. The residents of DV shelter homes share similar experiences of isolation, stress and separation from typical environments. Though the level of danger and distress varies in these populations, the feeling of anxiety, grief and helplessness is a common association among these populations. The common requirement of these populations is the need for emotional, psychological and mental wellbeing and the need to cope with the existing situation to return to normalcy. Given the lack of resources available for design of domestic violence shelters, existing health care design guidelines rooted in environmental psychology or

existing frameworks for therapeutic environments could be a means of informing design of DV shelters. In this study, material from four sources has been synthesized to create a “Framework of Dignity” (figure 2.3)

- Designing the built environment for recovery from homelessness by Michael J. Berens (2016)
- The Whole Building Design Guide by Smith and Watkins (From the Therapeutic Environments Forum, AIA Academy of Architecture for Health) which owes much of its roots to Angelica Thieriot’s development of the Planetree health care model in 1978 and Ulrich’s theory of supportive design for healthcare facilities
- Building Dignity website by The Washington State Coalition Against Domestic Violence (WSCADV) and Mahlum architects
- Design research and behavioral health facilities, the study on psychiatric facilities (Shepley, Mardelle M, 2013) puts forth design principles based on the psychological and physical needs of the users of the facilities

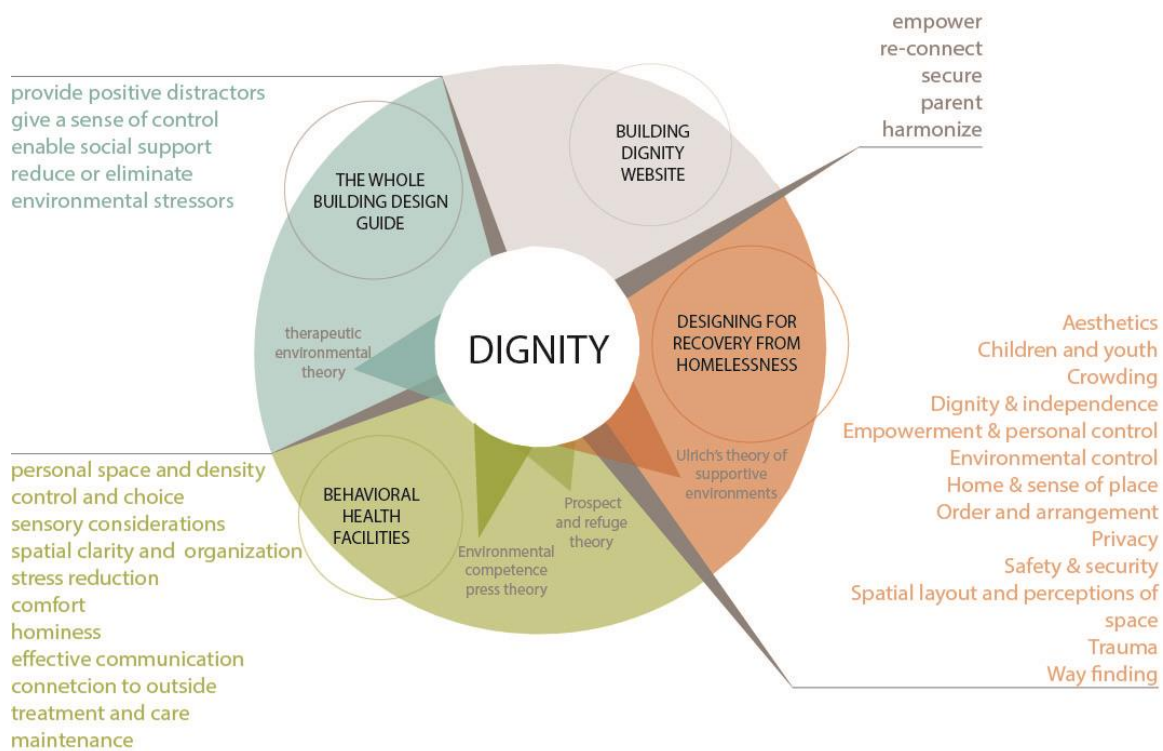


Figure 2.3. Synthesis of existing studies as a basis for the dignity framework

Design Resources for Homelessness, Inc. Spotlight report, designing the built environment for recovery from homelessness, prepared by Michael Berens.

This is a non-profit initiative dedicated to the positive potential of the built environment for healing and recovery. The report puts forth concerns that need to be taken into account while designing environments for recovery from homelessness. These have been stated in figure

- Aesthetics
- Children and youth
- Crowding
- Dignity & independence

- Empowerment & personal control
- Environmental control
- Home & sense of place
- Order and arrangement
- Privacy
- Safety & security
- Spatial layout and perceptions of space
- Trauma
- Way finding

Of all of the above, certain areas of concern such as dignity and independence, control (personal and environmental), home and sense of place, privacy, safety and security are important attributes for an environment for survivors of domestic violence. The population under scrutiny does not have any sort of decline in functional or cognitive abilities. Thus, order and arrangement, way finding and spatial layout are not strategies specific to only this population as they do not affect the psychological well-being of the residents. Other concerns like aesthetics, children and youth, crowding and trauma can be tackled separately. Aesthetics feeds into the core area of concern of making the environment homelike and comfortable. However, special arrangements can be made for the children of the victims within the facilities to make the mothers feel safe, secure and at home. Crowding can be dealt with at an organization and policy level, but it does relate to and affect the level of privacy and personal control.

Victims of violence at times do go through periods of homelessness. They experience constant feelings of fear and uncertainty, helplessness, loss of hope and vulnerability. Hence, provision of control (personal and environmental), privacy, safety and security and provision of a comfortable homelike environment are applicable to shelter environments in order to support women and children to reinforce feelings of self-determination, autonomy and dignity.

The Whole Building Design Guide by Smith and Watkins (From the Therapeutic Environments Forum | AIA Academy of Architecture for Health)

Based on Ulrich's theory of supportive environments and the Planetree model, Smith and Watkins (2010) created a set of architectural and interior design guidelines facilitating patient healing and well-being. They compiled an expanded version of the guidelines for a therapeutic healthcare environment and identified four key design factors

- reduce or eliminate environmental stressors
- provide positive distracters
- give a sense of control
- enable social support

According to Smith and Watkins, *no environment is neutral*. A healthcare environment is therapeutic when it does all of the following:

- Supports clinical excellence in the treatment of the physical body
- Supports the psycho-social and spiritual needs of the clients and staff

- Produces measurable positive effects on patient outcomes and staff effectiveness

With the commonalities between health care patients and shelter residents mentioned previously (stress, needs for comfort and security, separation from familiar surroundings, social isolation, fear of unknown outcomes), all these factors have relevance for DV emergency shelters. With the psychological distress that the study population is going through, the study of therapeutic environments is necessary. These concepts are broad enough to encompass the areas of concern like control and comfort in the way of therapeutic milieu. However, they do not accommodate the need for a comfortable homelike environment or safety and security.

Building Dignity website by The Washington State Coalition against Domestic Violence (WSCADV) and Mahlum architects

The goal of this website is to advocate for development of thoughtful design that dignifies survivors by meeting their needs for self-determination, security, and connection. The idea is to reflect a commitment to creating welcoming, accessible environments that help to empower survivors and their children (WSCADV & Mahlum. (2012). It organizes design strategies for domestic violence housing by place and aspiration: The following themes were identified for site level, communal spaces, kitchen, private space and staff spaces.

- Empower: Making one's own decisions; reclaiming the autonomy and dignity eroded by abuse

- Re-connect: Community support and [re]connection with others to break the isolation of abuse
- Secure: A sense of safety and well-being
- Parent: Parenting, supervising, and opportunities for bonding with children
- Harmonize: Minimization of conflicts and rules

This framework seems to be the closest to the current study in terms of the overarching concept of dignity. The conditions in which this vulnerable population lives during episodes of abuse and after fleeing from abuse can undermine their sense of dignity, autonomy, independence, and self-determination. The first theme suggested in this website is empowerment and it is closely related to dignity and sense of control. Empowerment means self-determination, which in turn means the exercise of control.

Reconnecting with others to break from isolation is the second proposed theme, which essentially gives the residents the independence, the choice to make a decision. This theme correlates to the idea of privacy and control of the resident over the level of privacy required. Secure and parent are themes that can be clubbed together as safety and security. It takes into account not only the safety of the women, but also of their children and that of the staff. However, minimization of conflicts and rules is a programmatic and organizational level issue that cannot be addressed through the built environment.

The study on behavioral health facilities (Shepley et al., 2013)

The recommendations in this study have been divided into two categories, one summarizing issues associated with environmental psychology (Psychological Needs), and

the other (Functional Needs) summarizing recommendations regarding functional factors (Shepley et al., 2013). Like the previous study, for each of the needs, recommendations were identified specific to certain spaces like common areas, patient units, patient rooms, staff spaces and furniture, fixtures and equipment.

Psychological Needs:

- Personal Space and density
- Control and choice
- Sensory considerations
- Spatial Clarity and organization
- Stress reduction
- Comfort
- Hominess

Functional Needs:

- Effective communication
- Connection to the outside
- Treatment and care
- Safety
- Maintenance

The core areas of concern like privacy and control, safety and security and comfort are addressed in this study. Reduction of stress by creating a homelike environment or connection to the outside, add to the component of comfort. Since the population in this study does not show symptoms of decline in functional and cognitive abilities, spatial

clarity and organization are not of utmost importance. In addition, effective communication and maintenance are organizational and functional issues.

Conclusion

Several aspects of different frameworks discussed above are relevant to the built environment of shelter homes for survivors of DV. The goals suggested on the building dignity website, the study for recovery of homelessness and that of behavioral health facilities are closely related to the needs of the victims, dignity being of prime importance. The analysis of each of the studies and synthesis of concepts mentioned in each one of them as seen in the literature map (figure 2.4) lead to the development of the framework of dignity that takes into consideration the following design objectives:

- Safety and security
- Privacy and control
- Comfort

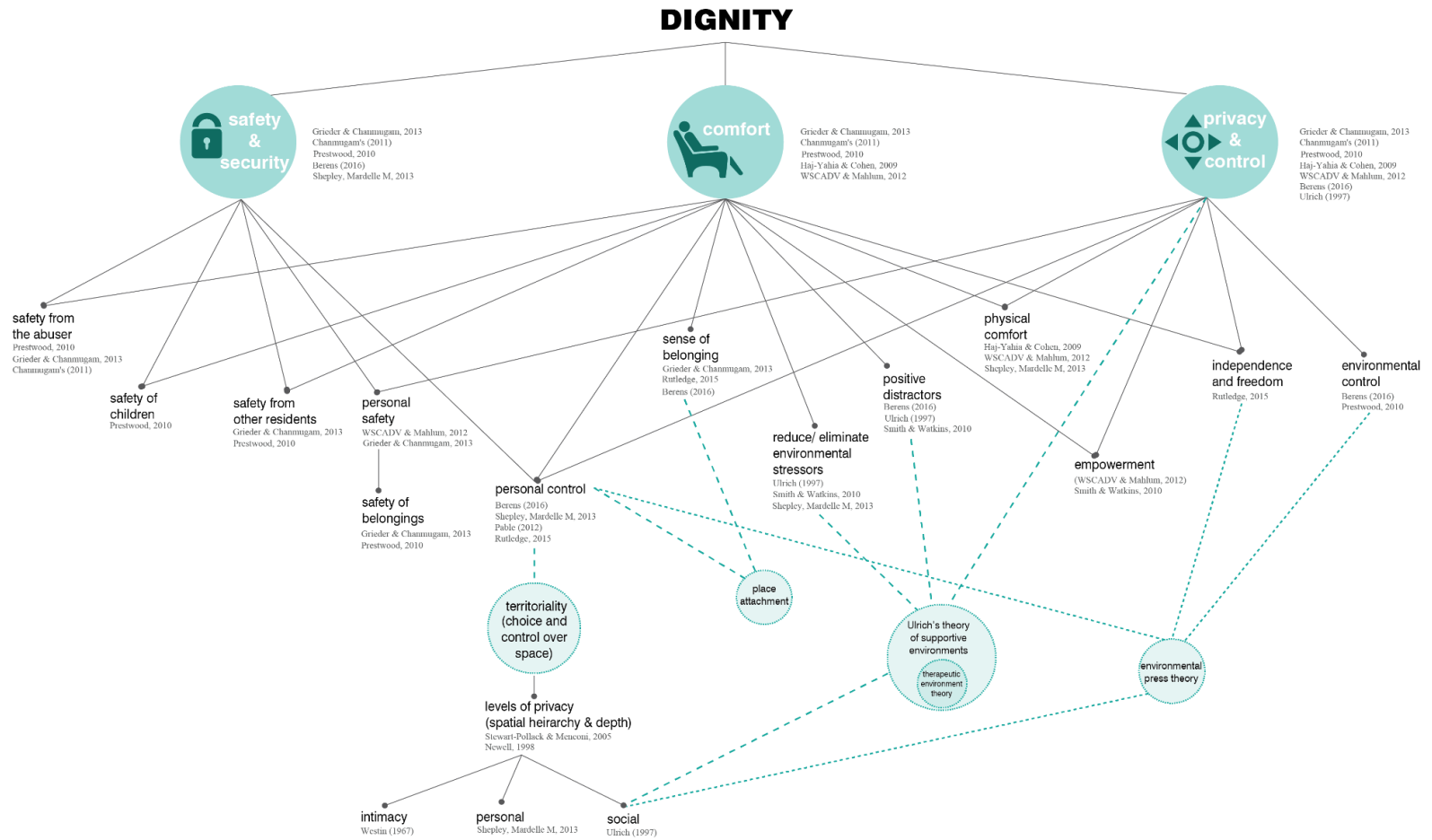


Figure 2.4: Literature map

Chapter 3

DEFINING THE OBJECTIVES OF THE FRAMEWORK OF DIGNITY

Introduction

The study framework derived from a comparative study across four existing frameworks encompasses three design objectives; safety and security; control and privacy; and comfort. Each design objective and the associated concepts (figure 2.4) identified from the literature review are defined and described in detail in this section. Each of the objectives is carefully studied and translated to fit the needs of the study population.

Safety and Security

Safety is often the biggest concern for shelter residents and staff. Understandably safety and security from the abuser are the primary reasons that women seek shelter in the first place and therefore security from an abuser once the women are inside the shelter is of grave concern for women (Prestwood, 2010). If the women do not trust that they will be protected by a shelter or feel safe once inside the space, they are likely to avoid seeking support or leave the site. Where they have no option, this forces them to return to the abusive environment, placing them at even greater risk for further harm (www.endvawnov.org).

Safety of their children is another important aspect that needs to be taken into account while designing environments for survivors of DV. As per Prestwood's (2010) study at 33 shelter homes in Fort Worth, Texas, multiple entry checkpoints add to the complex security layer and provide residents with a level of perceived safety. It was found

that most shelters are closed to the public and many are in private, undisclosed locations. These shelters often have keys, swipe-card access, security cameras at entrances and exits. Chanmugam's (2011) study on DV shelters interviewed 26 youth in 4 shelter homes across US. Security features identified by youth included high walls and fences, cameras, numerous locks on exterior and interior doors, lockers, and surveillance windows where staff watched residents from behind the glass. Another alike study by WSCADV & Mahlum (2012) for the Building Dignity website suggested that not only security mechanisms but circulation spaces and pathways within the facility or to and from the parking lot must be safe for residents. They defined safe paths as well lit spaces having no areas where someone could hide, and, if possible, are situated away from the street.

Personal safety includes security from abuser as well as security from other shelter residents. Within the shelter, clear sightlines that can be achieved through spatial clarity and organization creates a sense of safety for the residents (WSCADV & Mahlum, 2012). This makes the residents feel safe and aware of the surroundings and hence, adds to the safety component. In Prestwood's (2010) study participants expressed concern for the safety of their personal belongings in the shelter. The Building Dignity website also suggested that residents should be able to lock their personal rooms and storage for their possessions. This allows residents to feel safe and in control of their environment. A sense of ownership and control over space makes one feel safe. Concepts from literature reveal that inclusion of defensible spaces also contributes to the sense of safety and security (Newman, Oscar 1976).

Privacy and control

Privacy is a psychological state where person feels secure and comfortable, and it is said to have a positive therapeutic value (Newell, 1998). Westin (1967) described four dimensions of privacy, namely, solitude, intimacy, reserve and anonymity. Solitude implies that the person wishes to be physically alone with his/her thoughts. Intimacy implies interaction with a person, or persons to whom the individual feels close. Reserve implies that the person is actively avoiding interaction even in the midst of, or presence of others. In the case of anonymity, again, even though others are present, the person interacts minimally with them, and does not want to be identified personally. Hence, privacy can be defined as the freedom to control or choose levels of interaction.

Chanmugams's (2011) study mentions some rules disliked by youth included limits on television and computer access, the inability to eat when hungry, mandated quiet times, sign-in/sign-out procedures, inability to bring pets, dress restrictions (e.g., shoes required in common areas), and prohibitions on children from different families playing in one another's rooms. Although some of these are policy related issues, matters related to control and choice can be addressed by the built environment. Control has been consistently found to be a correlate of crowding and personal space - concepts related to privacy (Tripathi, 2010). Privacy is based on prospect-refuge theory (Dosen & Ostwald, 2013) and responds to spatial hierarchy and depth (Stewart-Pollack & Menconi, 2005). Prospect and refuge theory considers degrees of enclosure and exposure, but still allows for a sense of connectedness. Spatial hierarchies and depth emphasize the steps of going from less private to more private or effective means of distinguishing various territories

(Stewart-Pollack & Menconi, 2005). Privacy-sensitive design features could organize rooms, spaces, or areas following a logical sequence from public to more private areas. Avoiding inappropriate adjacencies such as rooms opening directly off common areas, or children's play areas in auditory range of resident areas is another suggestion by Grieder and Chanmugam (2013)

According to Berens (2016), the ability to create opportunities for privacy while allowing sightlines and visibility for safety creates the most obvious design dilemma. Beren's (2016) report was based majorly on findings from Pable's (2012) and Pable and Fishburne's (2014) study and from qualitative studies (interviews and surveys) conducted with homeless shelter residents. The study suggested that dormitory bedrooms have limited space and high density; hence offer little or no privacy. This affects quality of experience that leads to perceived loss of control and helplessness. Breaking up space in dormitories to form smaller units, instead of one large open plan or parallel corridors, enhances the sense of privacy and safety. Adding a series of control features including lighting for reading, bed curtains, and increased storage enhances the sense of internal control. The subjects in Pable's (2012) study on homeless shelters also expressed the need for greater privacy and control of their privacy. In addition to putting a lock on the door, Pable stated that adding bed curtains provides more personal control and privacy.

Privacy relates not only to independence, autonomy, and identity, but also to safety, stress reduction, and healing. According to Ulrich's (1997) theory of supportive design for healthcare facilities, stress levels may be reduced if the environment provides patients with a sense of control for environmental features (like noise and light); positive distractions

(views of nature); and access to social support (like presence of family). Research suggests that personal environmental control features may lessen stress and increase a resident's sense of internal control (Berens, 2016). Residents and staff appreciate opportunities to control and adjust their environment (WSCADV & Mahlum, 2012). On similar lines, Prestwood's (2010) study tried to examine the relationship between DV victimization and distress with building design elements as possible moderators (light, acoustics, materials, landscaping). It asserted that reducing stress is key to shelter residents' successful transition from an abusive relationship to independent living, and that strategies for design in the physical environment provide significant opportunities to positively impact stress reduction among domestic violence shelter clients.

Comfort

A space can be called comfortable when there is a sense of place attachment and belonging (Rutledge, 2015). Many victims of domestic violence have negative experiences associated with their homes. The domestic violence shelter can create an empowering home-like environment where women are able to reclaim their identities, create routines, and personalize their environment (Rutledge, 2015). Allowing and enabling individual personalization is essential in initiating place attachment (Grieder & Chanmugam, 2013). WSCADV & Mahlum (2012) on the Building Dignity website have a few suggestions that support personalization of space. Giving residents control over lighting and temperature adds to the physical comfort of the residents as well. The Building dignity website lists a few design considerations like provision of non-institutional, flexible furniture that can be rearranged to create bigger and smaller groupings to make the residents comfortable. The

warm, home-like atmosphere in the shelter's dining and kitchen area can make meal time less stressful and an excellent opportunity for bonding and reflection. Ambient lighting, large communal tables, and comfortable chairs can aid in creating a comfortable dining space (Haj-Yahia & Cohen, 2009; WSCADV & Mahlum, 2012). In the homes, large operable windows allow for both, ample natural light and fresh air to be distributed throughout the area easily for comfort and calmness. The shelter's daycare must be able to accommodate a wide variety of children's ages and needs through a variety of activity zones and different sizes and types of furniture (WSCADV & Mahlum, 2012). Children who have experienced domestic violence may feel the need for more quiet time and may require comforting spaces for counseling. These spaces should accommodate parents, if they are involved in these activities, through larger seating or room for standing or kneeling with their child (WSCADV & Mahlum, 2012). Art can create a visual distraction that helps to alleviate stress, as well as improve mood, comfort and customer satisfaction. (Berens, 2016).

Several above mentioned studies by environment and behavior researchers have suggested ways to achieve a more homelike environment by incorporating art, views, visual and acoustic comfort, avoiding long and institutional. These can have an influence on the well-being of the residents.

Chapter 4

METHODOLOGY

Introduction

The analysis and synthesis of concepts mentioned in each of the four existing studies mentioned in chapter 2 helped to develop the framework for dignity that takes into consideration the following design objectives:

- Safety and security
- Privacy and control
- Comfort

The aim of this study is to determine how the facilities physical design can interact with the goal of instilling a sense of dignity in the shelter's residents. This research was designed to use the dignity framework as an analytical lens through which to both observe existing shelters to get a comprehensive and complete picture of the issues involved in designing facilities for the survivors and that would eventually lead to enlisting effective strategies and solutions for addressing them.

Purpose

The purpose of this study is to create tools to evaluate the built environment of shelters and to provide a set of design considerations for shelters that would support the residents in regaining their lost identity and self-worth. This is done by conducting multi-method case studies at four facilities to obtain the following information as it relates to the dignity framework:

1. The built environment of shelter homes: The study tries to evaluate the built environment of shelter homes with the help of a built environment assessment toolkit through observations and photo documentation;
2. The structure and layout of shelter homes: The study uses concepts from space syntax (justified depth maps) and territoriality (levels of privacy) to analyze spaces in order to understand the effect of layout and design on the three design objectives listed in the dignity framework;
3. Perceptions of residents: This study tries to understand the perceptions of the clients through resident surveys;
4. Staff and organizational perspective: It also tries to understand the expectations and needs of the staff and residents through semi-structured interviews with the administrative staff in the shelters.

Methodology overview

As discussed in Chapter 2, literature search was conducted to establish the objectives of the dignity framework. The design features supporting the three objectives were discussed in chapter 3. The goals suggested in the literature are closely related to the needs of the victims, dignity being of prime importance. The dignity framework became the basis for conducting the multi-method case studies

A qualitative data collection method was used in conducting a multi-method case study across four facilities. These case studies helped to explore the spatial qualities of the shelter home with the help of a built environment assessment toolkit (appendix A), through on-site observations and photo documentation. The effect of layout and design were studied

through concepts of space syntax and territoriality. The perceptions and needs of the residents were recognized through resident surveys (appendix B). The interviews with the administrative staff focused on the existing shelters goals and how the design facilitated the accomplishment of these goals. It explored the resident’s needs and expectations and how a different design solution could positively alter how the facility interacted with the goals set by the organization. The interview questions are provided in appendix C. The results of the spatial analysis, surveys and interviews helped to understand the programmatic needs of the facility and helped to create a series of design guidelines.

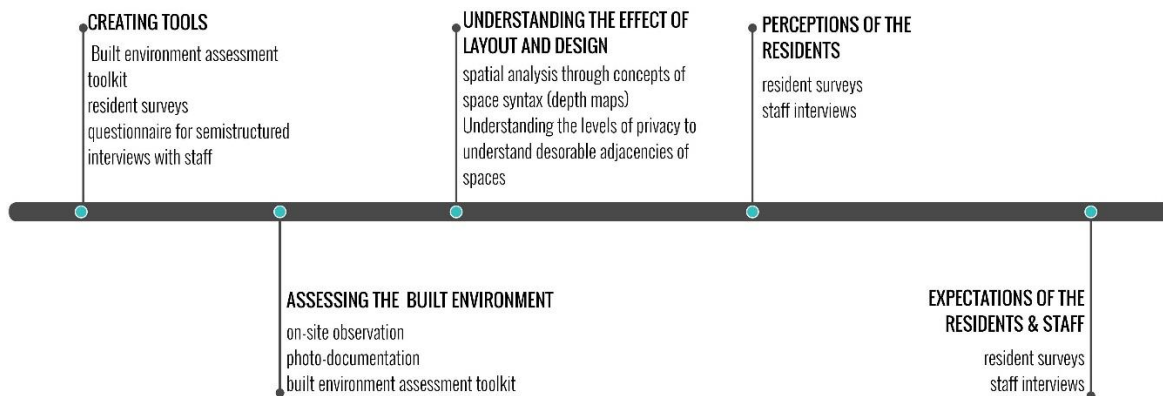


Figure 4.1. Multi-method case study

Site and sample selection

After visiting six facilities for shelter tours, four of the emergency shelters were selected based on the proximity to the researcher and cooperation from administrators and staff. Out of the four shelters, two houses were repurposed as shelters and two were built for the purpose. The two recently built shelter homes are both unique in their approach, where one follows a community living model, the other is an individual unit model. While

interviews, surveys and on-site observations were conducted at three sites, the fourth facility only allowed for on-site observation and photo documentation.

Approval was secured from Clemson University's Institutional Review Board (IRB) for the built environment assessment, surveys, and interviews. The author also obtained approval letters from directors of the facilities stating their support and participation in the study. At three sites, the director of shelter operations identified two staff members to be interviewed who worked closely with the residents. These were valuable, as they could provide a unique, first-person perspective on the issue; had in-depth knowledge about the needs of the residents due to their daily interaction with the clients and knowledge of multiple residents needs over a longer period of time. Due to the sensitive nature of the population, resident interviews were not feasible. Instead, the staff handed out paper surveys to the residents.

Literature findings and pre-study observations

After having visited each facility, the programmatic needs and requirements of the identified population were understood. These spaces were classified as intimate spaces, shared private spaces, communal spaces, public spaces and outdoor spaces. This was done on the basis of the levels of accessibility or privacy offered to the residents. The spaces were studied to understand what objectives they could conform in helping clients regain their confidence and dignity (figure 4.2).

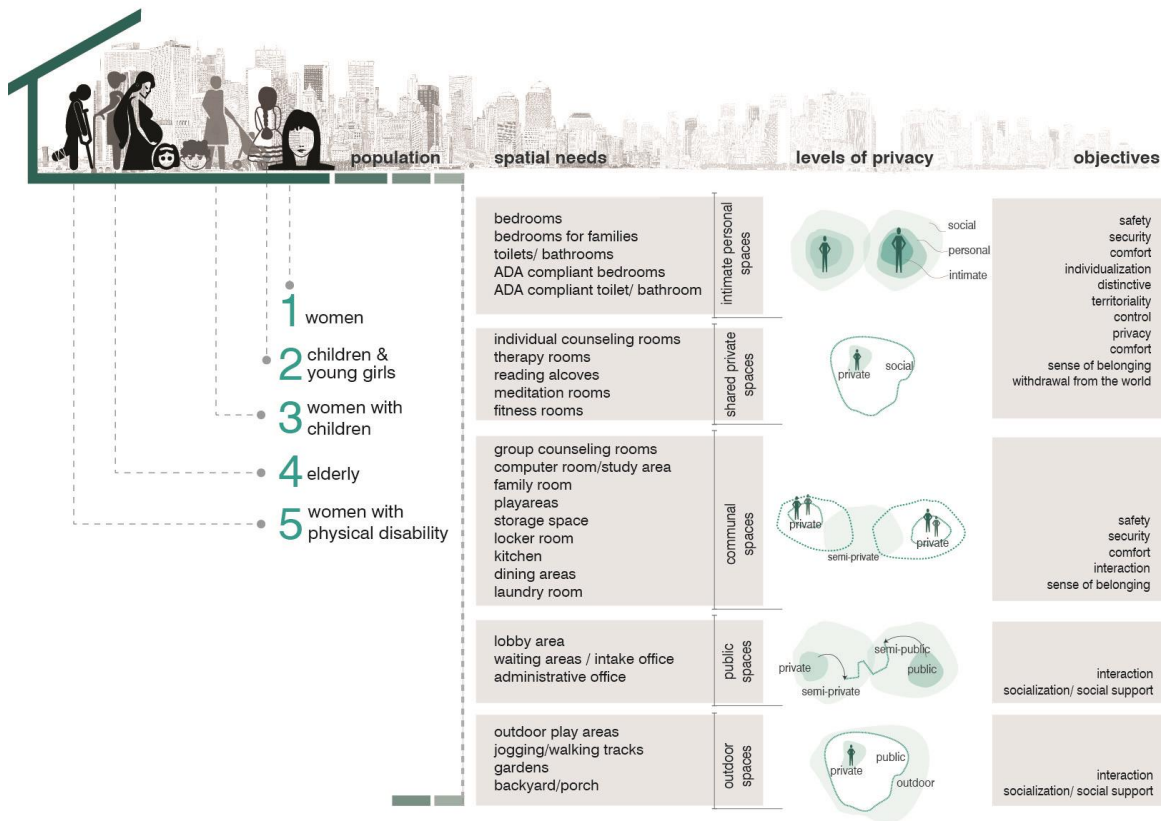


Figure 4.2. Literature findings and pre-study observations

Built environment protocol

The built environment assessment toolkit (Appendix A) was created based on the three design objectives derived from the literature review to understand the features in the facilities that support these. It was based on the structure of the Clinic Design Post-Occupancy Evaluation Toolkit created by The Center for Health Design (2015) to examine the exterior, interior and individual spaces within each of the facility. The CHD Clinic Design POE toolkit offers five components of which one helps to audit the physical environment based on a set of 14 design principles. It requires one to observe whether design features are implemented and rate how well the features meet certain criteria. A

similar format has been used in the built environment assessment toolkit for the shelter homes as seen in figure 4.3. The first page of the toolkit defines and describes the dignity framework and the three design objectives. The second page has general information, list of services provided by the organization and a photo protocol. In the following pages, each of the spaces (exterior, overall interior, bedrooms, play areas, kitchen and dining areas) is organized under three categories: safety and security; control and privacy; and comfort such that the design features under each objective of the framework are listed. All the design features were derived from existing studies. The rating system from the CHD Clinic Design POE toolkit was eliminated and the statements for design features were phrased to allow a yes (positive) or no (negative) response. This allows for a more objective assessment and will allow for more consistency between raters. The positive responses were designated as 1 and the negative ones as 0. The physical aspects of the shelters were assessed to check what percentage of the criteria listed in the toolkit were met.

After having received approval from Clemson University's Institutional review board, the author scheduled appointments to tour and photo document each facility making sure that the identity of the residents or staff and location of the site wasn't disclosed. Two hours of on-site observation at each facility helped in obtaining direct evidence, allowed the best means of evaluating the spatial setting for addressing safety and security, privacy and control, and comfort in these environments. The new design features encountered that were not a part of the assessment tool originally were analyzed to decide where they belonged to in the framework or if they brought up some issue that had not been considered in the initial framework.

Building Exterior/ Site			SITE1	
Design evaluation criteria			Yes/No	
Theme 1 (safety and security)	Access to the shelter from major public transport stations	1		
	Access to major landmarks in the city	1		
	Proximity of the shelter to educational institutes	1		
		3	100.00%	
	Availability of ADA compliant parking	1		
	Presence of ramps or lifts at the entrance for residents with physical injuries	0		
	Provision of automatic doors at the entrance	0		
	Well-lit outdoor spaces	1		
	Presence of surveillance systems/cameras at the entry and exit points of the site	1		
	Presence of surveillance systems/cameras at the entry and exit points of the building	1		
	Provision of bell system at the entrance	1		
	Provision of Gates/locks to the site to control entry and exit	1		
	Provision of boundary walls or fencing to the site	1		
	Provision of alarms on site accessible by resident in case of crisis	0		
	Provision of shades/patios for protection from climatic conditions like rain	1		
Limited visibility into interiors from the exterior	1			
Protected outdoor play spaces for children visible from indoor to supervise	1			
	11	78.57%		
Theme 2 (control and privacy)	Opportunities for solitude(benches/chairs/swings)	1		
	Opportunities for socializing(picnic tables/barbeque areas)	1		
	2	100.00%		
Theme 3 (comfort)	Provision of healing Gardens	1		
	Provision of walking/jogging/cycling tracks (physical activity) for residents	1		
	Provision of range of areas acomodating various age groups and activities	1		
	Provision of outdoor play areas for children	1		
	Provision of space for outdoor social gathering like barbeques/ gardening spaces	1		
	Use of aesthetically pleasing landscape landscaping	1		
	6	100.00%		
Building Interior			SITE1	
Design evaluation criteria			Yes/No	
Theme 1 (Safety and security)	Presence of ramps or lifts for residents with physical injuries	0		
	Provision of rooms at the entry level for wheelchair bound residents	0		
	Provision of automatic doors systems	0		
	Provision of alarm systems on the site for residents to use in case of crisis	0		
	Ease of video monitoring the activities in common areas and entrance door through cameras positioned in strategic locations	1		
	Clear signages within the shelter	1		
	Separation of residential corridors and rooms from public areas	1		
	Well-lit(artificial or natural) circulation spaces	1		
	Provision of artwork/sculptures for better orientation	0		
	Location of surveillance systems/cameras within the circulation spaces and common gathering spaces of the shelter	1		
	Presence of railings at the top floors for safety of kids	0		
	Provision of multiple small gathering spaces rather than one big space	0		
		5	38.46%	

Figure 4.3. Sample of the built environment assessment toolkit

Survey protocol

Due to the vulnerable nature of the population, the study made sure that there wasn't direct interaction of the researcher as a stranger with the residents of the shelter. Instead, surveys were created based on the dignity framework to address the perceptions and needs of the residents under each design objective, namely safety and security; privacy and control; and comfort. The survey (detailed in appendix B) was approved by Clemson University's Institutional review board. The surveys were handed to the director of shelter operations/ house manager and were in turn given to the clients to fill out. The filled surveys were collected by the house managers and stored in a file that was collected by the author, a week later. The survey did not demand for personal details and assured anonymity. At the same time, they were voluntary and no incentives were provided for the same.

Interview protocol

The director of shelter operations identified two staff members in each of the facilities who worked closely with the residents. The author then scheduled appointments with the staff members individually. At the beginning of the interview, the author explained the interview process and asked for permission to record the interview. The author assured staff members that participation was voluntary and wouldn't affect their employment. Each interview lasted an average of forty minutes. To help facilitate frank discussion, the interviews were conducted individually with the author in a private office at the shelter away from residents and other staff members. The interviews were recorded and

transcribed and all data was stored in a confidential location to which only the author had access.

Analysis of interview and survey data

The interview data was transcribed into written text and analyzed using a directed approach to qualitative content analysis. Deductive logic was used to organize the data into the three design objectives. The ones that did not fall into the three identified categories were classified either as policy or other. This was reviewed to reassess the framework to check for any missing design objectives. The responses from the surveys were grouped and answers compared across participants to determine trends and derive statistics that bolster or refute responses from the interviews. The criteria for design guidelines were derived from trends seen in the analysis. In conclusion, the built environment assessment tool and resident surveys were thoughtfully amended and edited based on the findings. In appendix A, the assessment toolkit, the suggested additions have been highlighted in blue while the ones that could be removed are in red. Similarly, in appendix B, the questions to be reframed are highlighted in red and the replacement questions are stated below in blue.

Spatial analysis

In the fields of environment and behavior, the physical environment, specifically its spatial arrangement, has been considered an integral part of its focus. To study the morphology of spaces, the concept of space syntax is used. Connectivity, control, choice, depth and integration are indices that are used to study privacy and spatial configuration (Alitajer, Saeid 2016). For this study in particular connectivity and depth have been taken

into account. Syntax theory proposes two ways of breaking up a layout into its constituent spaces: convex spaces and axial lines (Hillier, 1989).

Convex maps and depth maps

The architectural plans of the facilities were color coded as per function of the spaces. As seen in the key in figure 4.4, the spaces are grouped as outdoor, public, communal, shared private or intimate spaces. The architectural plans were first translated into convex spaces (figure 4.4). Convex spaces are those spaces within which all points are directly visible from all other points within the space; these are the most elementary units of analysis (Alitajer, Saeid 2016).

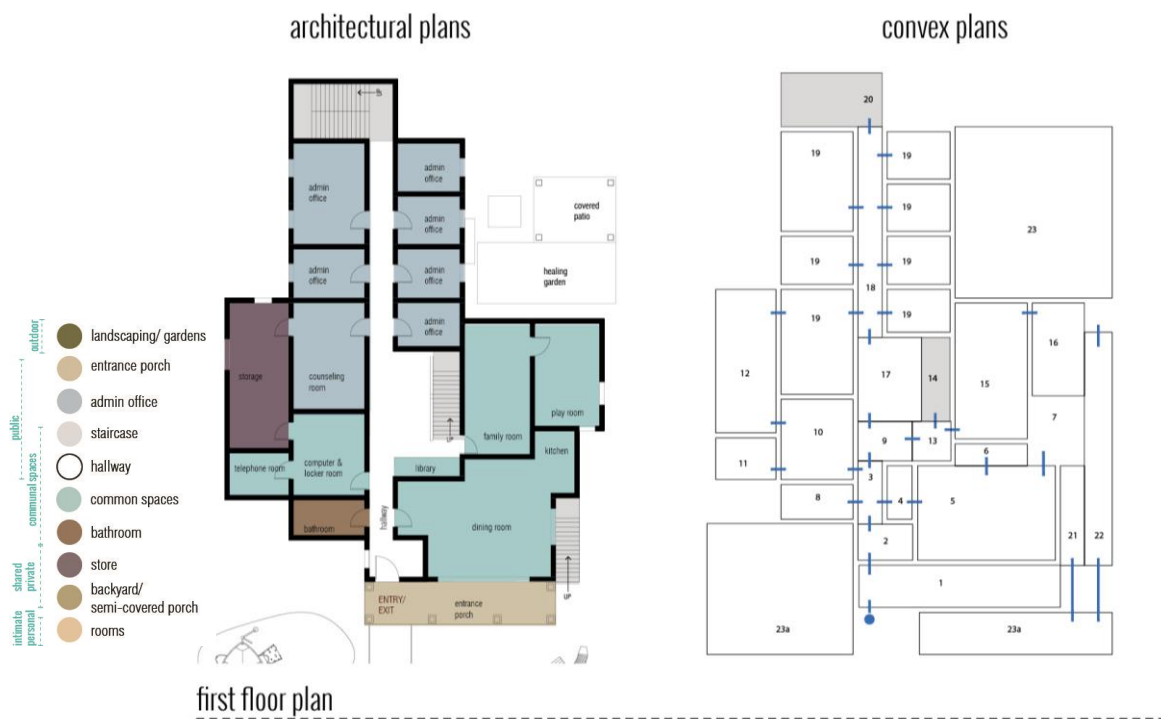


Figure 4.4. Example showing color coded architectural plans and convex plans

The connections between spaces derived from the convex plans were used to create depth graphs with the main entrance to the facility (E) as the root. Then all spaces that are directly accessible from it i.e. of depth 1, are arranged horizontally above it, all spaces of depth 2 arranged horizontally above the first and so on until all the spaces in the system are accounted for. The other entry/exits have been marked as E1/E2. All the connecting lines are then drawn in to show their relationships to each another. These steps were categorized into a certain level(s) of privacy determined in figure 4.2 based on the function of spaces at that particular step. Depth from the root considers the number of steps that separate a particular space from the main entrance. Each of the space in the depth graph is color coded as per the key to differentiate between various types of spaces. The spaces at step 1 are shallowest and those at step 5 are the deepest from the root. Previous studies by Hillier (1989) and Alitajer (2016) for syntactic analysis of domestic spaces show that shallow spaces are integrated in the system, while the deeper ones are segregated. The ideal steps would be public, communal, shared private and intimate spaces in order. The graphs give a visual representation of depth from a space, i.e. how shallow or deep it is in connection to all the other spaces in the system based on the levels of privacy. This makes it clear to identify the functions that are not located in the appropriate level. In each of the graph, location of spaces in the system that conflict with the level of privacy have been identified as problem areas and marked in red as shown in figure 4.5.

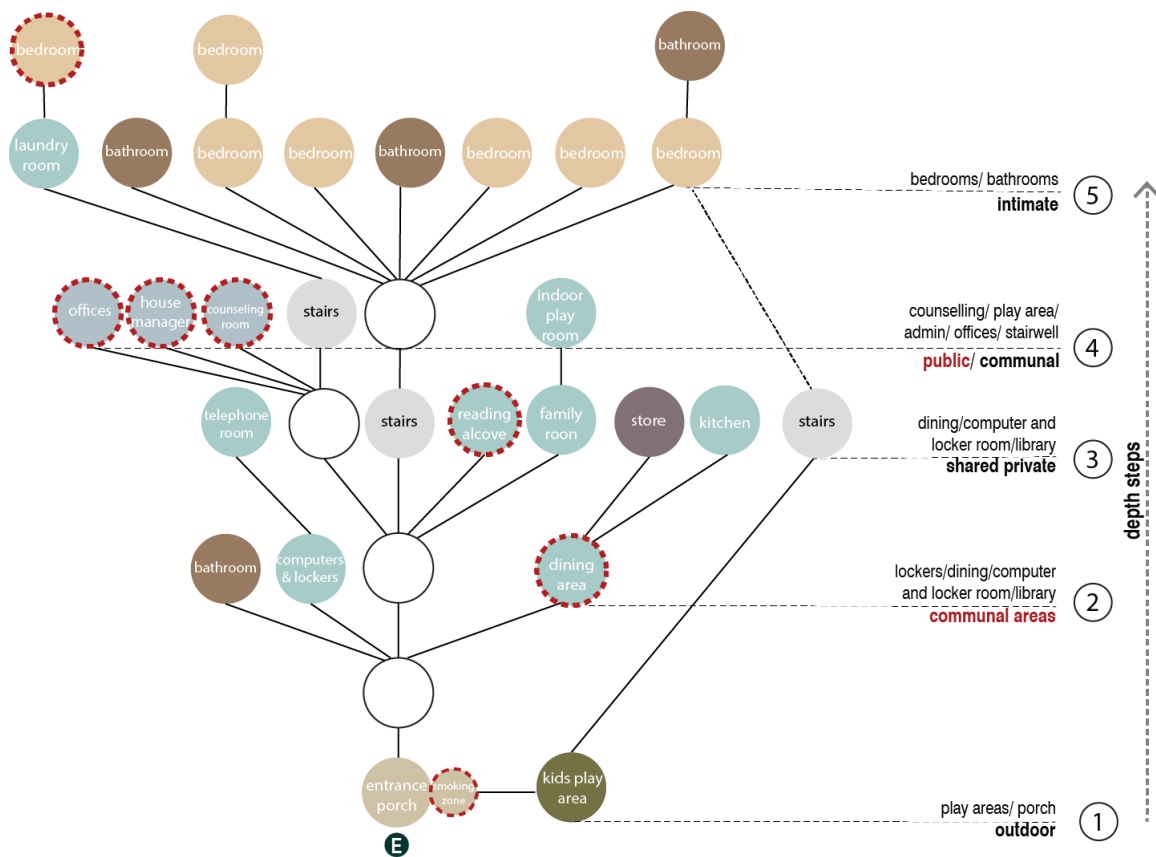


Figure 4.5. Example of depth graph showing levels of privacy

Axial maps

According to Hillier (1989) the axial map captures the sense of connections that a person gets while moving about a building. It comprises the least number of straight lines that must be drawn in order to cover all the available connections from one convex space to the other. Axial maps help to identify the connectivity between spaces. A connection between two spaces is said to be shallow or deep when a few or many intervening lines have to be traversed when going from one to the other. A space is said to be integrated when all the other spaces of the building are relatively shallow from it (Alitajer, Saeid

2016). The thicker lines indicate highest connectivity and integration, while the thinner lines indicate the low connectivity and integration in the system (figure 4.6). Analysis from Alitajer's (2016) study of traditional and modern housing to analyze privacy in homes shows that high connectivity and integration with a low degree of depth causes disturbance in privacy, whereas minimal connectivity and integration with maximum level of depth enhances privacy.

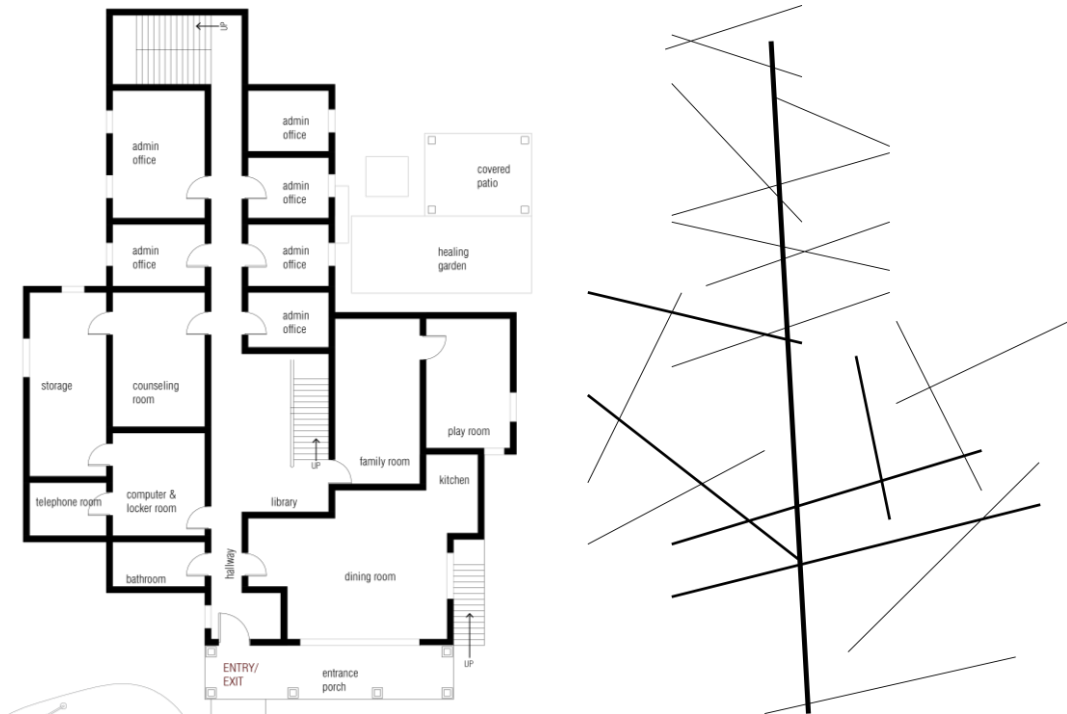


Figure 4.6: Example of plan converted to axial map

Adjacency matrix

The depth graphs and the axial maps helped in identifying the problem areas in each of the facility using connectivity, integration and depth as indices for understanding privacy and safety which in turn affect comfort levels of the residents. Spatial analysis was crucial in understanding the desired and undesired adjacencies of spaces housing different functions within a facility. First a list of spaces was developed based on the findings from the staff interviews and responses from resident surveys regarding their needs and expectations. These findings were used to triangulate findings from morphological and syntactic study of the facilities to estimate highly desired, medium desired and undesired adjacencies of spaces for a program represented in the form of a matrix.

Assumptions and limitations

Assumptions

It is assumed that staff gave sincere, precise and honest answers during the interviews, though they could have altered the responses with the fear of being quoted, in spite of being assured that the interviews would be anonymous. Similarly, the responses of the residents in the surveys are also assumed, to be frank and reliable.

Limitations

The researcher did not interview residents due to privacy restrictions and instead focused on the staff member's knowledge of the needs and expectations of the residents. The sensitive nature of human subjects is seen as a limitation. This hinders the staff or

resident's ability to share certain details with the researcher. The repurposed shelters that are used as case studies have a few constraints of meeting the needs of the residents due to the ability of the setting and financial aspects. The study took into account the architectural aspects of the facility and did not target the policies, functioning, and funding of the shelters.

Conclusion

In conducting this study, numerous questions were addressed through the interviews with the staff. Similar questions had been addressed by previous research studies but did not analyze the architectural design in order to determine the purposeful design of domestic violence shelters. Based on the insights gained from the spatial analysis, surveys and interviews, the framework and the tools would be revisited to understand the missing pieces, if any. The study sought to create guidelines based on the framework that could be applied to shelter homes with the goal of meeting the needs of both residents and staff while providing for an environment that can help reclaim the dignity of the survivors.

Chapter 5

CASESTUDY

This chapter focuses on studying and comparing the built environment across 4 facilities; two repurposed shelter homes (site 1 and 2) and 2 built as shelter homes (site 3 and 4). The case study analysis was broken down into four steps:

First, comparing the design objectives from the dignity framework based on the literature review with the goals set forth by each of the facility to verify if they are in tandem or they bring up an issue that was not taken into consideration in the dignity framework. Some goals that cannot be addressed through the built environment and can be tackled only at policy level were categorized as “other”.

Second, collecting observational data and analyzing the built environment of the shelter home using the toolkit created based on the dignity framework.

Third, analyzing the individual spaces using concepts of space syntax like connectivity, integration and depths to understand adjacencies and effect of space configuration on privacy and comfort.

Fourth, conducting surveys with the residents to understand their perception of the space and interviews with the administrators and staff to understand the needs and expectations of the staff. The surveys and the interviews are a way of triangulating and verifying the analysis derived from the spatial study. The interviews also helped to understand the goals that the facilities wanted to accomplish as an organization.

Shelter home 1



Figure 5.1. Exterior of Site 1

Background

It is a non-profit organization dedicated to serving victims of domestic violence and their children in the upstate of South Carolina. They provide shelter, counseling, advocacy and support to the victims and their children with the help of approx. 6 staff members which include the house manager, family advocate, housing assistant program manager, child and family program manager during the day and night. The shelter stay is typically 6-8 weeks during which Federal Formula Grant supports the clients work with the professional staff to identify needs and set goals. The shelter project was awarded by the Office for Victims of Crime, U.S. Department of Justice through the South Carolina department of Public Safety.

The two-storeyed residential bungalow was converted into a shelter home for victims of violence approximately 20 years back. With its location in the downtown area,

it offers the residents the convenience of living near malls, grocery stores and other services like schools and offices. It is comprised of six rooms and can accommodate up to 28 residents at a time. All the rooms are shared rooms and there are three common bathrooms for the resident rooms on the second floor and one for the room in the basement. There are no provisions for the handicapped.

Their aim is to influence a culture where all people are safe and valued. They work to provide a continuum of services for victims of domestic violence and their children. In addition to providing shelter and assistance, their goal is also to eliminate cultural acceptance of domestic violence through a coordinated community response, prevention and education.

Client/User profiles

The residents or clients of the shelter home come from diverse backgrounds and circumstances and deserve individualized care. At the time of the study, the shelter had 19 clients of which responded (66%) Of these, 66% (n=8) of women respondents belong to the age group 40-49, 25 % (n=3) belonged to the age group 30-39 and only two resident belonged to age group 50-59. Residents are allowed to bring their children who may be in danger to the shelter. They accommodate the needs of all female children and male children up to the age of eighteen who have been affected by abusive relationships by providing children's counseling and support services. At the time of the survey there were no children in the shelter. Except four residents who had been in the shelter for only a week or less, the rest of them were living in the shelter for more than 25 days.

Goals of the organization

This organization has goals that they wish to accomplish in order to create an environment where the residents feel safe and valued. These criteria are listed below along with explanations and justification from the staff and directors of the shelter. The house manager emphasized trying to make them trauma informed. Grounded in safety, trustworthiness, choice, collaboration, and empowerment, trauma-informed services are designed to be welcoming and hospitable for all individuals while avoiding client re-traumatization (Harris & Fallot, 2001).

Safety

The idea is to establish a safe environment. It takes into account physical and emotional safety. Physical safety can be abuse/stalking by partners, family, visitors or staff and emotional safety addresses a clients' lived experiences in order to minimize re-victimization. According to the staff, the residents do feel safe in the shelter physically due to the security mechanisms in place. Safety can be questioned in a community living setting, because apart from policies the facility does not have anything in place to tackle conflicts between residents within the home. Hence, emotional safety becomes variable.

Trustworthiness and Transparency

This goal emphasizes making tasks clear and maintaining appropriate boundaries. Organizational operations and decisions are conducted with transparency with the goal of building and maintaining trust with clients, among staff, and others involved in the organization. This goal is more at a policy level.

Peer support

Peer support and mutual self-help are key vehicles for establishing safety and hope, building trust, enhancing collaboration, to promote recovery and healing.

Collaboration and mutuality

Importance is placed on collaborating between staff and clients and among organizational staff advocating that healing happens in relationships and in the meaningful sharing of power and decision-making. The organization recognizes that everyone has a role to play in a trauma-informed approach.

Empowerment, voice and choice

The organization fosters a belief in the ability of individuals, organizations, and communities to heal and promote recovery from trauma. The organization understands the ways in which clients are diminished of power and control over their lives and hence tries to empower them, help in decision-making, choice and goal setting with the help of advocates and counselors.

Cultural, Historical, and Gender Issues

The organization tried to overcome barriers of race and age when providing services to the community.

The table below helps identify if the goals of the organization relate to the design objectives of the dignity framework.

GOALS OF THE ORGANIZATION	DESIGN OBJECTIVES FROM DIGNITY FRAMEWORK			
	Safety & security	Control & privacy	Comfort	Other
Safety	X			
Trustworthiness & transparency	X	X	X	X
Peer support		X		
Collaboration & mutuality		X	X	
Empowerment, voice & choice		X	X	
Cultural, historical & gender issues				X

Table 1. Comparison of goals of Site1 with design objectives

Spatial morphology

The two storeyed residential bungalow was renovated to accommodate the needs of a shelter home for victims of domestic violence. The facility is residential in appearance and scale with its gambrel roof and exterior wooden sheathing. It has adequate parking space and well landscaped outdoor spaces and play areas.



Figure 5.2. First floor plan, Site 1

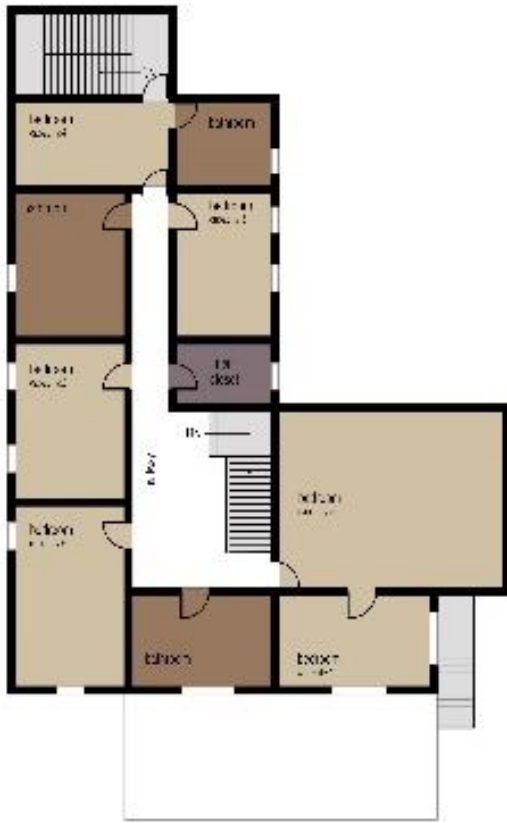


Figure 5.4. Second floor plan, Site 1

The plan of the facility is linear with activities flanked on both sides of the corridor. The kitchen and dining areas are the major resident activity areas, but they are in proximity to the entrance. The corridor leads to a central node that is connected to the family room and computer room on both sides and a staircase to the second floor. Along the same hallway is a set of staff and administrative rooms. The resident activity areas that are semi-private are closer to the entrance while the staff areas that are public are tucked deep into the facility. The corridor terminates into a fire staircase that takes one down to the basement where the laundry and boys room are located. The second floor of the facility follows a similar linear corridor which leads to rooms/common bathrooms and storage spaces.

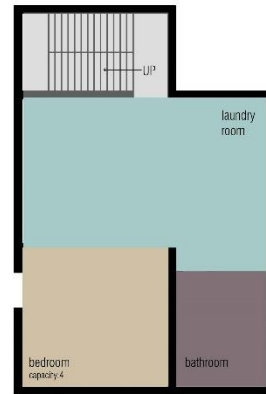


Figure 5.3. Basement plan

Syntactic analysis

For a description of syntactic qualities of site 1, a convex map was drawn (figure 5.5) and then translated to a depth graph (figure 5.6). From root of the system (entrance) the shallowest spaces are the kitchen and dining area, and the computer room. The family room and library lie in mid-range, and administrative suite and indoor play area are further deep in the system. The deepest spaces(at the 5th depth step) in the system are resident rooms, bathrooms and laundry room. The overall order of spaces from shallow to deep:

Resident activity areas > Administrative suite > Bedrooms
communal *public* *intimate*

Some problem areas have been identified from the analysis of the depth map based on the adjacency of spaces and marked in red on the depth graphs (refer 5.6). The smoking zone located at the entrance porch and in close proximity to the kids play area is seen as a problem. The communal areas like the dining area being located closest to the entrance affect privacy and hence comfort. Because of the "tree-like" spatial system, and linear circulation the communal areas where the residents spend maximum time after their bedrooms, must be traversed in order to go deeper into the system; residents are thus exposed to anyone entering or moving through the unit. The family room is the most strategic space, being the hub of the distributed system.

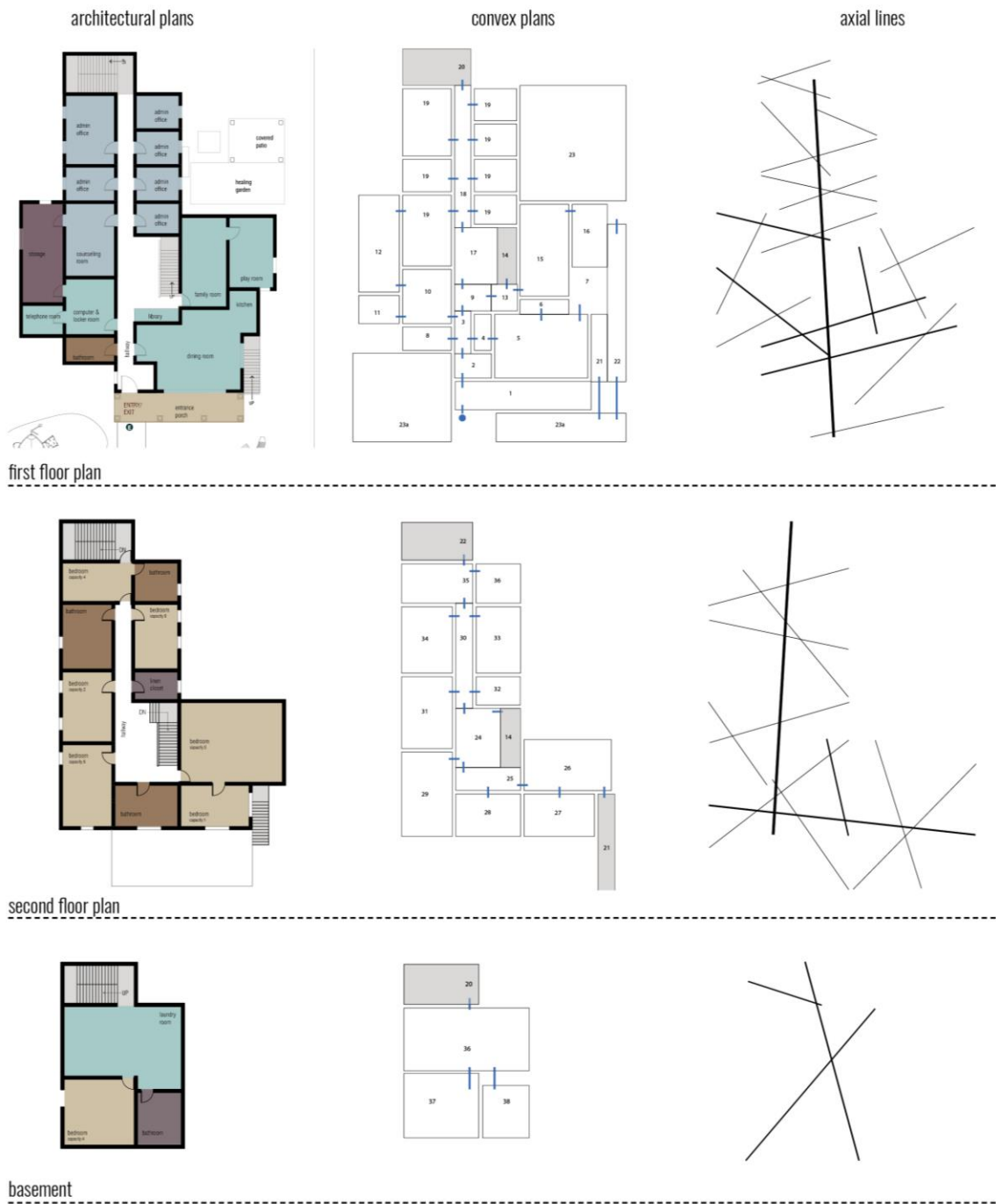


Figure 5.5. Architectural plans, convex plans and axial lines for Site 1

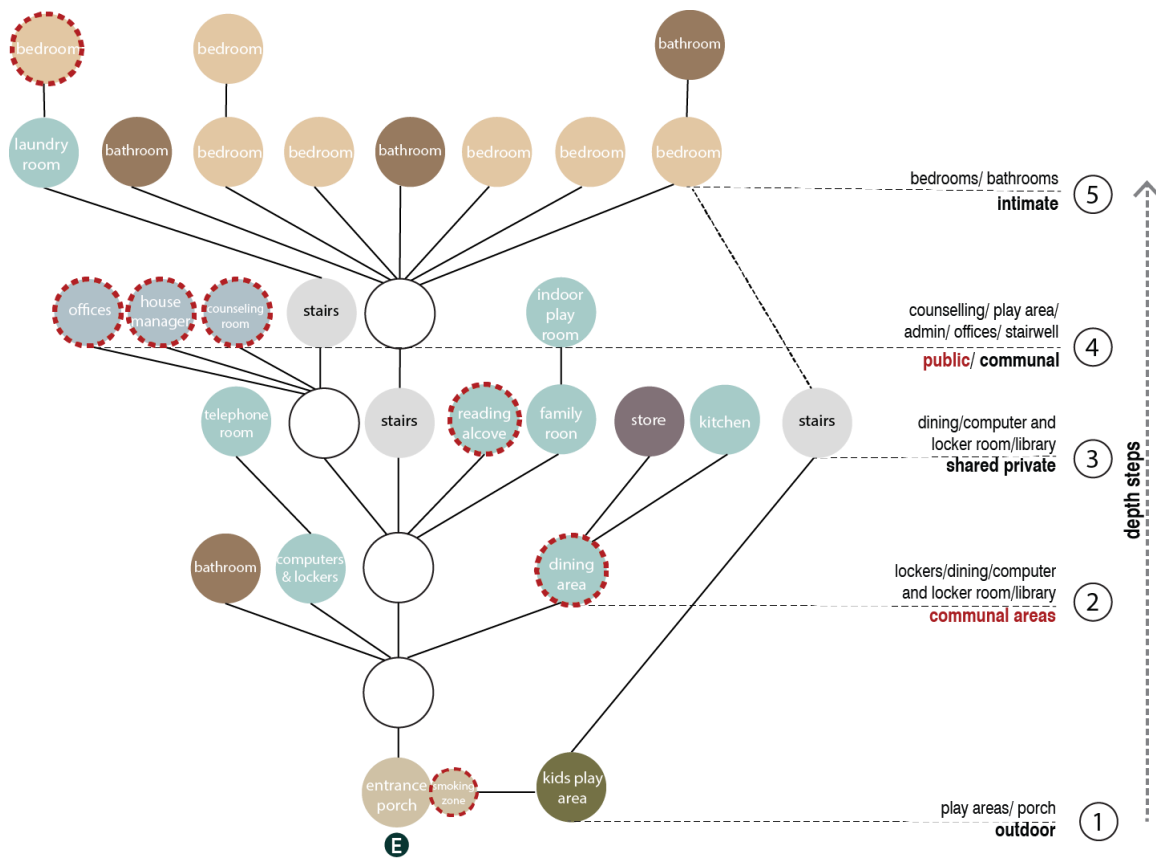


Figure 5.6. Depth graph for Site 1

It is evident from the axial maps (figure 5.5) that the circulation areas are the most integrated spaces and are connected to a majority of resident use spaces. The perception of privacy is affected when the system is integrated. Locating the entire cluster of bedrooms on a separate level so that they are contained axially, and separated both physically and visually from the entry and public spaces creates a sense of intimacy. However, the control point of the unit that is staff offices –fail to exercise direct control over the resident activity areas which are shallower to the entry and the resident rooms.

Spatial analysis based on the framework

Safety and security

From the built environment assessment 59% of the criteria were met for safety and security at site 1. The entry to the site is restricted and controlled by the use of a driveway gate keypad system. From the parking lot, one has to pass through a pedestrian security gate to enter the walkway that leads to the entry porch (figure 5.7). The entry door from the porch is controlled by a bell system, which acts as the third checkpoint, thereby adding to the safety and security of the home. 69 % of the residents felt completely safe in the shelter and 31% felt somewhat safe. 69% of them attribute the safety to the presence of cameras and staff in the facility.



Figure 5.7. Pedestrian security gate



Figure 5.8. Entrance corridor

The layout of the facility also contributes to the perception of safety within the facility. Since there is no lobby and one enters a dark corridor that makes the space less welcoming (figure 5.8). This also makes the space intimidating and less secure for the residents. The family room is located on the first floor with a playroom attached to it that allows mothers and staff to leave kids in the playroom and relax or participate in group sessions but at the same time keep an eye on their children. This contributes to the

emotional safety of the residents. However, a major concern is that one of the bedrooms has a door that opens into a fire exit staircase. This makes it very difficult to ensure safety of residents and keep control over them.

The administrative staff of the shelter mentioned during interviews that the residents felt safer in the shelter home than being with the abusers, but safety varies at a personal level.

The house manager of the facility claims that

“We have things in the house in place that speak to safety like alarm systems, panic buttons, camera systems, automatic locking doors. I think we do have a secure facility.”

The shelter plays an important role in ensuring the safety of residents from outsiders or abusers, but they have witnessed conflicts amongst clients and sometimes between clients and staff, which makes them feel unsafe occasionally. However, there are measures like surveillance cameras and panic systems in place to tackle safety issues. There are surveillance cameras located within the shelter on the first floor which primarily covers the communal spaces and the outdoor areas. There are no cameras on the second floor of the facility where bedrooms are located which comforts the residents and doesn't intrude on their privacy, but from the interviews and surveys it is evident that there are several instances of theft in the rooms that cannot be tracked due to lack of evidence.

Privacy and control

From the built environment assessment, 63% of the criteria were met for privacy and control at site 1. One enters the facility from the entrance porch into a corridor which is not very welcoming. It is flanked by all the activities and spaces like kitchen and dining area, family rooms, computer and locker rooms and administrative offices on either sides. This does not allow for any natural light in the circulation space. The kitchen and dining areas are typically communal spaces but are placed in the public zone and hence used less

by the residents. The corridor opens into a slightly larger node, which is dark and dingy, from where the hallway flows into a wide staircase that provides a means of egress from the public areas of the facility to the private rooms on the second floor (figure 5.9). The



Figure 5.9. Central Node.

The computers and the lockers are in the same space and very accessible from the central node of the facility. The location of this room makes this space public, though it should be in the shared-private zone. From this room there is access to a telephone room, which also acts as a storage space. Due to several activities occurring in the same space, it is always crowded. The resident rooms are some of the most important spaces in this domestic violence shelter design. The bedrooms allow residents time to reflect, heal, and form their identities away from their abusers (Haj-Yahia & Cohen, 2009). This facility follows a community living model. This facility follows a community living model. They have six rooms accommodating around 33 residents; where

four are shared rooms with two common bathrooms and one is a private family room located in the basement with a common bathroom. This room for the family is also meant for boys (under the age of 18) or women if there are any in the group. One of the staff member emphasized the problems faced by residents due to shared room.

“I think the biggest challenge is community living and it's a scary time when you know that you have to share your space with the people you don't know. That's a problem. Because people don't have the time and place to heal privately. They're coming in crisis and you're taking them to bedrooms with bunk beds. That is something they're not comfortable with.”

But the resident surveys show a contradicting finding. 62% of the residents prefer shared rooms, as long as they get their quiet time. Though the bedrooms are located deep within the facility in the intimate zone and away from the public areas, the layout of the rooms is not well planned because of the need to accommodate maximum number of beds and people in the space. This makes the rooms crowded and does not allow for privacy and personalization. However, 62% of the residents spent maximum time in the bedrooms for privacy. The use of bunk beds to save on space



Figure 5.10. Resident rooms

is not preferred by most of the residents (figure 5.10). There is no separate provision of furniture like beds or cradles for toddlers or children of the victims. The landscaped backyard and deck are seen as the best features of this facility. The trees form a green canopy over the deck. The outdoor patio gives the residents an opportunity to connect to nature and allows for retreat and privacy.

Comfort

57% of the comfort criteria from the built environment assessment were met for site 1. The walkway from the pedestrian gate to the entrance porch is landscaped on either sides of the walkway. The entrance porch supported on columns creates a well-



Figure 5.11. Entrance porch

covered entrance to the facility. This adds to the residential character of the facility. The porch has seating, but is typically used by smokers and is always crowded (figure 5.11). Hence, the porch and the minimally landscaped entrance are not comfortable for other residents, some staff or visitors. This is supported by the resident survey according to which a majority of the clients find the porch unsafe and uncomfortable. Though the corridor is dark and dingy due to insufficient lighting, the presence of indoor plants and artwork alleviates the drab nature of the space.

The family room has a comfortable couch and a television that makes this space most used by the residents (figure 5.12).

This space doubles up as an area for groups and counseling sessions, though it is

insufficient for the number of women and children that gather here. The artwork,

fireplace, indoor plants and memorabilia add to the homelike appearance of the space. The playroom is colorful and inviting

but narrow and has insufficient storage space for toys and other required material. The sill height of windows is high for kids and

hence they cannot view the outside and engage with nature. This also draws attention to the lack of natural light in the play area. The dining area provides only eight hard wood chairs in a facility that houses 33 residents and hence the space is not very comfortable and

flexible to use (figure 5.13). It has windows that open into the porch and allow for ample natural light. There is just enough storage space for raw materials and cooking supplies.

Many supplies are stored along the periphery of the room. The major problem noted about this area was insufficient space to cater to needs of all the residents at the same time.



Figure 5.12. Family room



Figure 5.13. Dining room

The crowded bedrooms, bunk beds and lack of amenities for children adds to the discomfort of the residents (figure 5.14). There is inadequate storage space and at times, the clients even have to share a chest of drawers with fellow residents. There are window openings in every room but do not provide sufficient natural light. There is a provision of window seats but they are used as storage spaces rather than relaxation spaces. There is bare minimum artwork in the rooms.

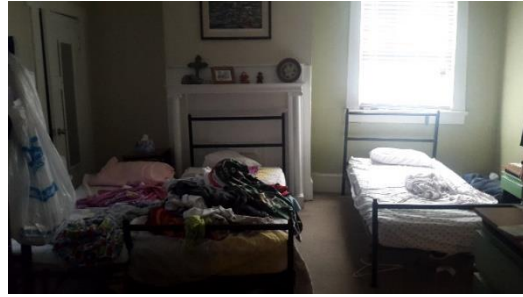


Figure 5.14. Shared bedroom



Figure 5.15. Outdoor patio

The outdoor patio is furnished with landscape accessories and furniture (figure 5.15). This makes the backyard comfortable. There are spaces allotted specifically for gardening but they are not maintained and used as desired.

Conclusion

Since the facility was adapted in an existing house, there are a few limitations. The major problem areas in this facility are the location of the kitchen and dining spaces, the room in the basement and the reading alcove. The staff has problems due to insufficient space for activities and storage. The facility is overall seen as safe and secure, but there are some aspects of the layout and the design that restrict control and privacy; and also cause discomfort to the residents and staff. Hence, from the built environment assessments,

resident surveys and staff interviews, the shelter home is seen to be partially successful in achieving its goals.

Shelter home 2



Figure 5.16. Exterior of shelter 2

Background

The shelter home is run by a non-profit organization dedicated to serving victims of domestic violence and their children in the upstate of South Carolina. They provide shelter, counseling, advocacy and support to the victims and their children with the help of approx. four staff members which include the house manager, family advocate, and night staff. The shelter stay is typically 6-8 weeks during which the clients work with the professional staff to identify needs and set goals.

The two-storeyed residential bungalow was acquired and converted into a shelter home for women in 2006. It comprises of 5 rooms and can accommodate up to 20 residents

at a time. All the rooms are shared rooms; two on the first floor to cater to needs of physically injured or handicapped clients and 3 on the second floor. There is one common bathroom for the resident rooms on the first floor and one for the rooms on the second floor. Their aim is to create an environment that is safe and homelike and where the clients feel valued.

Client/User profiles

The response rate at site 2 was 56% (n=7) of which 43 % belonged to the age group 25-29, 43% belonged to the age group 40-49 and 14% belonged to age group 30-39. Residents are allowed to bring their children who may be in danger to the shelter. They accommodate the needs of all female children and male children up to the age of eighteen who have been affected by just witnessing abuse within the house. At the time of the survey one woman was accompanied by three children, all below the age of 12.

Goals of the organization

This facility does not have a set of goals listed down that they would want to accomplish, but interviews with the staff made it clear that they wish to create a homelike atmosphere for the residents to feel safe and valued.

Creating a homelike atmosphere

The idea is to create a comfortable environment. According to the staff, the layout of the shelter and the use of non-commercial furniture used adds to the home-like ambience. The community model of shared rooms is the only aspect of the shelter that is

not homelike and comforting. Provision of private rooms, or rooms shared between two residents would be preferred. This lets residents have control over their space and the cleanliness of the space, which is the most common reason for conflict among the residents.

Safety and security

The goal is to make the clients feel safe and secure physically, and psychologically. Mostly, the residents do feel safe in the shelter since they are aware of the existing safety systems in place. Emotional or psychological safety and wellbeing is taken care of by activities conducted by the family advocate and house manager during groups or session to help the residents cope up with the situation they are in.

Providing stability and self sufficiency

The shelter home staff emphasized helping the clients to come to consensus with their situation and find ways to cope and deal with it in a manner that they are capable of choosing the life they want to lead. This is possible when the residents are at peace with themselves and get the space and time to heal privately.

The table below helps identify if the goals of the organization relate to the design objectives of the dignity framework.

GOALS OF THE ORGANIZATION	DESIGN OBJECTIVES FROM DIGNITY FRAMEWORK			
	Safety & security	Control & privacy	Comfort	Other
Safety & security	X			
Create a homelike atmosphere	X	X	X	
Providing stability & self-sufficiency		X	X	

Table 2. Comparison of goals of the Site 2 with the design objectives

Spatial morphology

The two storeyed residential bungalow was renovated to accommodate the needs of a shelter home for victims of domestic violence. The facility is residential in appearance and scale with its gable roof and exterior wooden sheathing, but the outdoor spaces and play areas are not well maintained and landscaped. It has adequate parking space and two separate entrances for visitors and staff, and residents.

The plan of the facility is very homelike, unlike the previous facility due to lack of corridors. There are two different entrances, one for the residents from the family room and the other from the office, for visitors. Residents enter into the family room which has the dining area, kitchen and laundry to the left. Locating the family room at the entrance is perceived as unsafe by 57% of the population. The open plan of the kitchen and dining areas makes all the three spaces flow into each other. This provides opportunities for socialization. The family room also leads to an internal space that connects to the bedrooms and staircase going to the second level. There is a second cluster of administrative offices at this end of the facility as well. The second level has the bedrooms and play area for children.

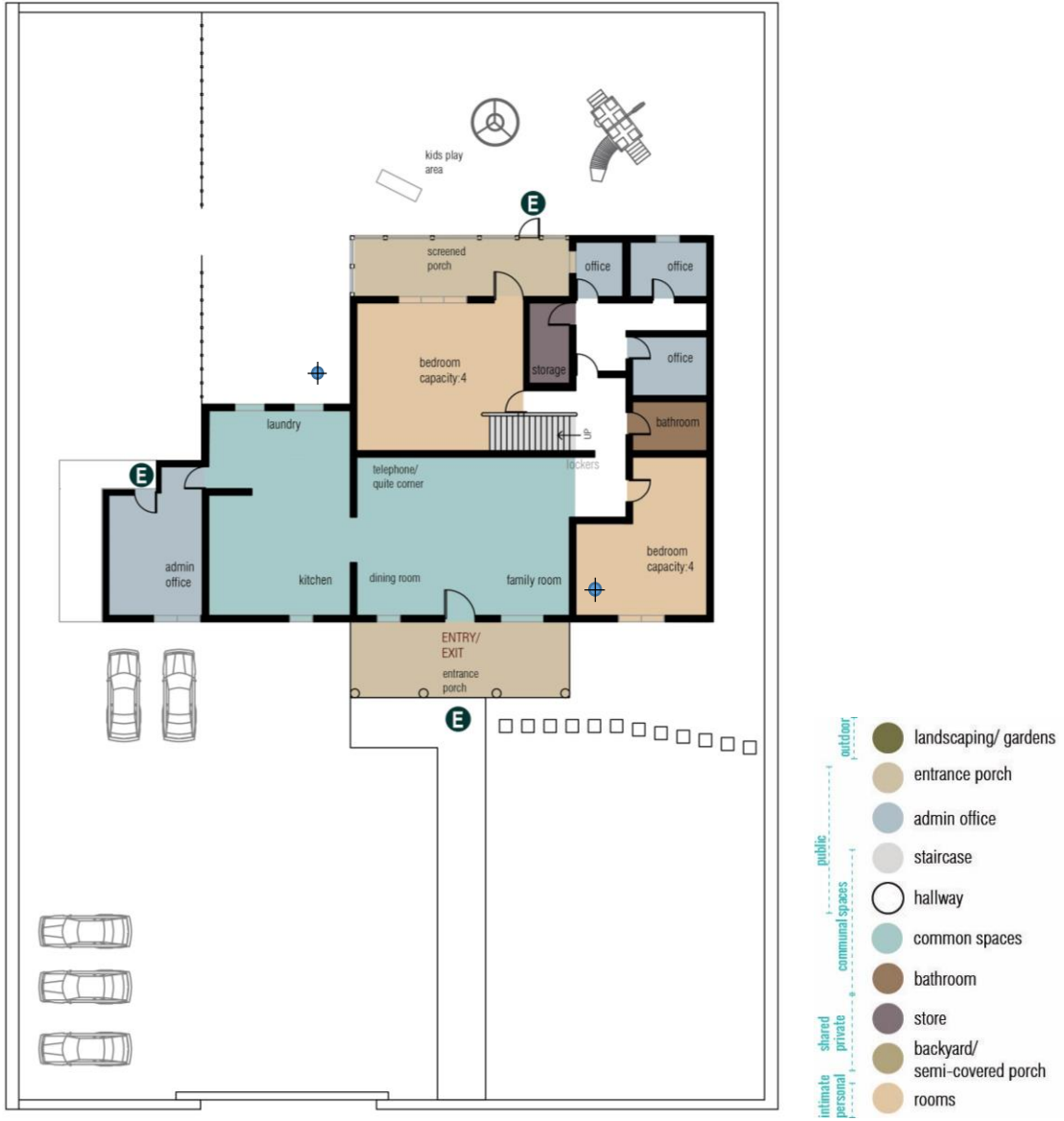


Figure 5.17. First floor plan, Site 2



Figure 5.18. Second floor plan, Site 2

It is evident from the depth graph (figure 5.20) that the shallowest spaces with respect to the root (entrance) are the family rooms and the kitchen and dining area. The resident rooms are located at the 3rd and the 5th depth steps. The 2 bedrooms on the first floor are also very shallow from the entrance. The deepest spaces in the system are resident rooms and bathrooms. The order of spaces from shallow to deep with respect to the resident entrance are as follows:

Resident activity areas > Bedrooms > Administrative suite > Bedrooms
communal *intimate* *public* *intimate*

The order of spaces from shallow to deep with respect to the visitor entrance from the office are as follows:

Administrative suite > Resident activity areas > Bedrooms
public *communal* *intimate*

The flow of spaces from both the entrances taking into account control and privacy are appropriate. The sequencing of spaces fits the various levels of privacy identified in figure 4.2.

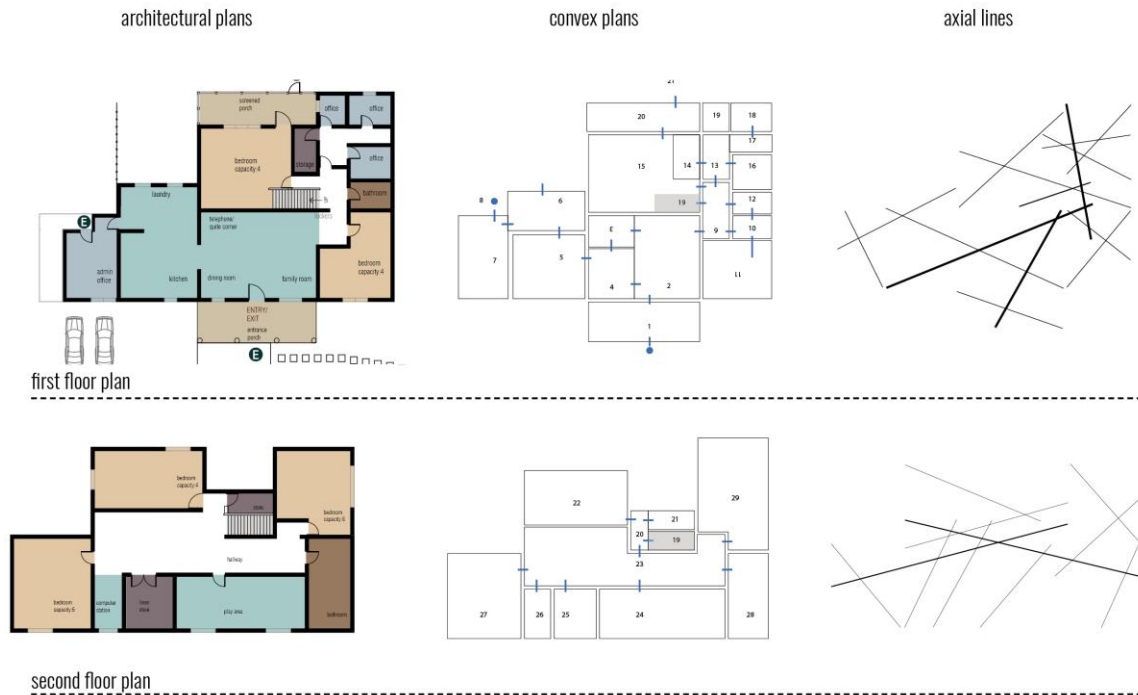


Figure 5.19. Architectural plans, convex plans and axial lines for Site 2

It is evident from the axial maps that the spatial system is less integrated on the first floor and is focused on the circulation areas on the second floor. The perception of privacy is high when the system is integrated (Alitajer, Saeid 2016). However, locating the entire cluster of bedrooms on a separate level so that they are contained axially, and separated both physically and visually from the entry and public spaces adds to intimacy of the space.

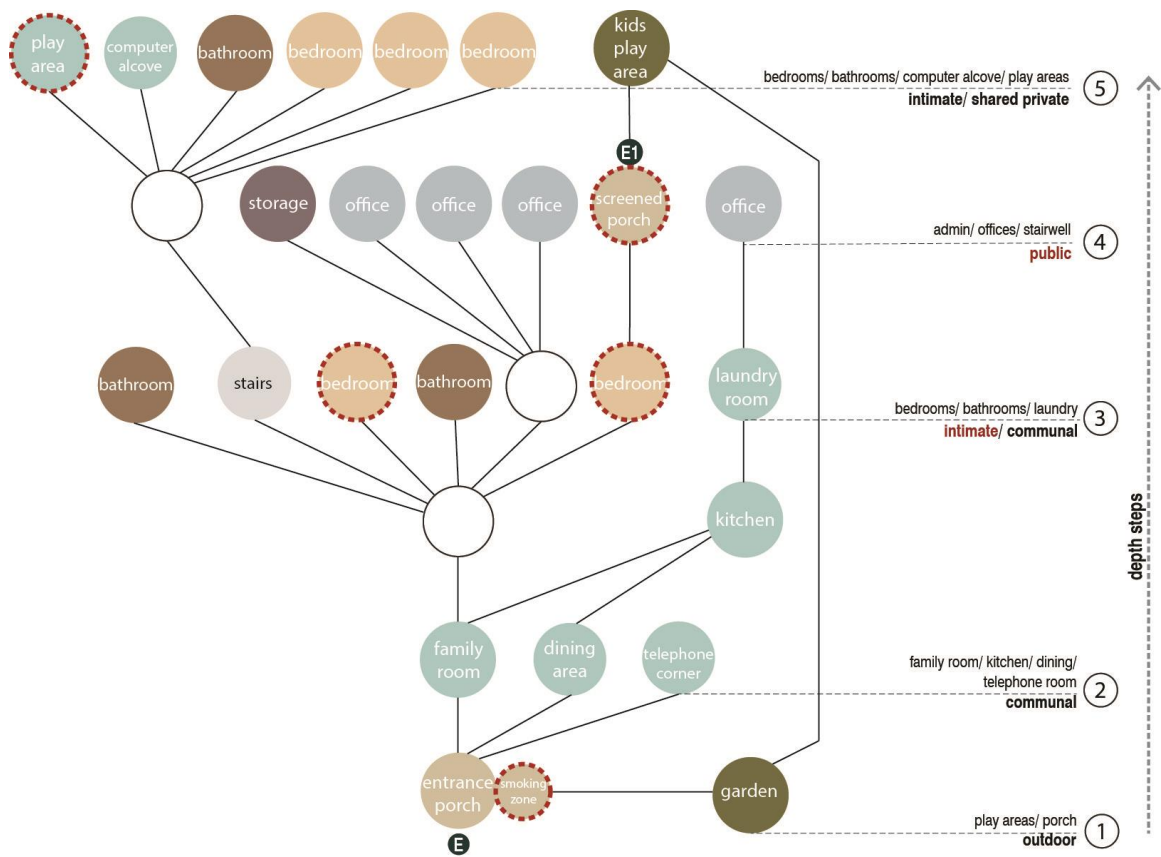


Figure 5.20. Depth graph for Site 2

Spatial analysis based on the framework

Safety and security

47% of the safety and security criteria of the built environment assessment were met at site 2. The entry to the site is restricted and controlled by the use of a driveway gate keypad system. The entrance porch creates a well-covered entrance to the facility. The entry door from the porch is controlled by a bell system, which acts as the second checkpoint, thereby adding to the safety and security of the shelter homes. The entrance porch doubles as the smoking area. The entrance porch is not comfortable for other

residents, some staff or visitors. There is a separate back entrance for visitors and staff which is also controlled by a bell system. Both the entrances have surveillance cameras installed that can be monitored from the house manager's office for security purposes. The presence of cameras, gates and fenced compound have been prioritized by the clients as preferred security features. The presence of fellow residents is also perceived as an element of safety. The administrative spaces are split into two areas within the facility. One acts like the front office for visitors and also doubles as the intake room, while the other part houses offices for the manager, family advocate, and a small meeting room. Splitting up the offices helps the staff to have better control over the functioning of the shelter. This adds to the safety from the point of view of the Staff. The bedroom and play areas are located on the second floor. The playroom is narrow and has a sloping and low ceiling, which makes the space unsafe for children (figure 5.21). The playroom being situated on the second floor is seen as a problem by the staff, because it becomes an added duty to handle kids running up and down in the shelter. The staff would prefer provision of the play area on the first floor closer to the congregation spaces. However, the staircase has safety doors and handrails to prevent children from climbing up and down without the supervision of parents or staff.

This facility also, like the first one follows a community living model, but the layout of the rooms makes it less cluttered. 57% of the residents feel safe in the bedrooms and spend maximum time there.

Control and privacy

65% of the criteria from the built environment assessment were met for site 2. As mentioned earlier, the two separate entrances for visitors and staff controlled by bell system and splitting up of the administrative office in two locations adds to the component of control from the staff standpoint.

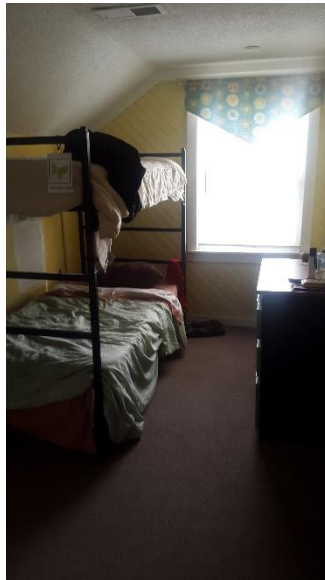


Figure 5.21. Bedroom with bunk beds



Figure 5.22. Bedroom on first floor

The proximity of the play areas to the bedrooms allows mothers to keep a watch on the kids while in their rooms. The bedrooms are some of the most important spaces in any domestic violence shelter design. This facility has five rooms accommodating around 2-5 clients per room (20-22 total residents). There are three shared rooms located on the second floor with one common bathroom and two shared rooms with a common bathroom situated on the first floor.

One of the staff members during the interviews mentioned that the provision of common bathrooms or stalls in bathrooms does not let the residents feel in control of their life.

“Something that I would want to look at is the bathrooms... We have stalls. It makes them feel like their body doesn't have control of the space and doesn't give them enough privacy. Using a bathroom or stall is not very private because you still can see through. That can be a trigger for somebody. This is a home but that's more of a public setting in the bathroom.”

The bedrooms on the second level are deep with respect to the entrance and hence serve as intimate spaces. Though 57% of the residents prefer private rooms, approximately 81% of the residents go to the bedrooms for privacy due to lack of spaces for reflection or meditation.

The shelter manager during the interview suggested that

“It would be better if they had their own private spaces just because everyone's dealing with their own personal trauma and if you throw them in a room together it creates a bit of chaos.”

Having bedrooms on the first floor is advisable to accommodate for clients with any physical disability. However, the bedrooms on the first floor are very close to the family room which is very noisy and crowded. This invades on the privacy and peacefulness of the residents in the room.

Comfort

Only 47 % of the criteria of the built environment assessment were met for this site. This is bolstered by the data from resident surveys according to which 100% of the residents felt only somewhat comfortable in the in the facility. However, the take of staff on comfort contradicted the resident perception and the built environment assessment. During the interviews, the house manager stated that

“Because it feels like home clients feel a bit more laid back. There is no sense of urgency. But if it felt like a facility they would be cleaning, making sure everything's tidy.”

One positive feature of the design of this facility is the absence of corridors and hallways on the first floor. This adds to the homelike attributes of the shelter making it comfortable. The second floor has a corridor that leads to all of the rooms, but it is not a long one that makes it appear institutional. The family room (figure 5.24) is located on the first floor and connected to the kitchen, dining areas, and the administration office. It is the central hub of the facility where women spend most of their time. The family room has several types of seating and configurations



Figure 5.23. Family room



Figure 5.24. Dining area and kitchen

(bar stools in the kitchen, dining table with 8 comfortable and cushioned seats apart from the couches in the family room) that encourage and enable conversations in different groups. The dining area has windows that open into the porch and allow for ample natural light (figure 5.25). There is just enough storage space for raw materials and cooking supplies. The use of appliances that are not institutional or commercial grade make the space more homelike. The dining area and the family room together doubles up as an area for groups and counselling sessions, though it is insufficient for the number of women and children that gather here. The artwork, fireplace, indoor plants and memorabilia add to the comforting and homelike appearance of the space.

The playroom has a playful appearance because of the colors and artwork but is narrow and has a low ceiling that makes the space dark overall in spite of windows. Apart from this, it has insufficient storage space for toys and other required material. There is no separate room for computers or a study where residents can work on their resumes etc. to find employment, or look for housing and fulfill their goals. There is an alcove on the second floor that has a computer station. The space is insufficient and the number of computers is not enough to cater to needs of all the residents. Though the bedrooms are planned better than site 1, the use of bunk beds to save on space is not preferred by most of the residents and staff. There is not any separate provision of furniture like beds or cradles for toddlers or children of the victims. There are windows in every room that provide sufficient natural light. The rooms are well kept and the artwork and colors make the rooms homelike.

This facility has outdoor play areas for kids and a porch that doubles up as a smoking area, but these spaces are not well kept (figure 5.26). The landscape is not maintained well.

The shelter has a unique feature of a screened porch that looks onto the children's play area in the backdrop of a forest. This ensures that women can stay indoors but still connect with nature and at the same time supervise their children without being in the same physical space.



Figure 5.25. Outdoor play area



Figure 5.26. Screened porch looking over the play area

Conclusion

The director of shelter operations mentioned that the organization is ambitious and wants to provide stability and self-sufficiency to the victims with focus on engagement, education and empowerment. The focus is to create a homelike atmosphere without compromising on safety and security. In spite of several positive planning and layout features, this shelter was somewhat successful in attaining the design objectives. The major limitation for this facility was that it was also repurposed like site 1.

Shelter home 3



Figure 5.27. Exterior view of Site 3

Background

It is a non-profit organization that has been built as a shelter home for victims of domestic violence in 2014. They provide shelter, counseling, advocacy and support to the victims and their children with the help of approximately three staff members which include the house manager, director of shelter advocacy and family advocate. The shelter stay is typically 6-8 weeks.

It comprises of four rooms and can accommodate up to 14 residents at a time. All the rooms are shared rooms. One room on the first floor is handicap accessible and has a common bathroom. Out of the three rooms on the second floor, one has an attached bathroom while the other two use a common bathroom with stalls.

Client/User profiles

The response rate for resident surveys at site 2 was 67% (n=6) with one resident belonging to each age group category 18-24, 25-29, 30-39, 40-49, 50-59 and above 60 years. 50% of them had been living in the shelter for 25-30 days, two of them had been there for a week and one for around 45 days. Two of the women were accompanied with children. There were a total of three kids in the shelter at the time of the survey.

Goals of the organization

The stated goal of this shelter home is to celebrate hope, transformation and independence for victims of domestic violence. Their aim is to influence a culture where all people are safe, can make their own decisions and feel respected as well. The family advocate at the shelter specified that it should be like an oasis, something very calming and peaceful.

Safety

The idea is to establish a safe environment. Most of the residents feel safe in the shelter due to the gates and the security systems itself. They mostly feel safe from external objects, but the most common reason for them to feel unsafe is the conflict between clients for various reasons like differences in opinions and standards of cleanliness.

Autonomy and independence

This goal aims at making the women independent to take decisions, and gain control over their life. This goal is accomplished by giving the women the freedom of entering and exiting the shelter as and when they need to by punching the entry and exit

times using a card. This shelter has a time clock system that helps to keep tab of the whereabouts of women. They do not have to inform any staff member in the shelter unless they feel the need to.

Creating a calming and peaceful atmosphere.

Peer support and mutual self-help are key vehicles for establishing safety and hope, building trust and enhancing collaboration, to promote recovery and healing.

The table below helps identify if the goals of the organization relate to the design objectives of the dignity framework.

GOALS OF THE ORGANIZATION	DESIGN OBJECTIVES FROM DIGNITY FRAMEWORK			
	Safety & security	Control & privacy	Comfort	other
Safety	X			
Autonomy & independence	X	X	X	
Creating a calming & peaceful environment		X	X	

Table 3. Comparison of goals of the Site 3 with the design objectives

Spatial analysis

The two storeyed residential bungalow was renovated to accommodate the needs of a shelter home for victims of domestic violence. The facility is residential in appearance and scale with its gable roof and exterior wooden sheathing. It has adequate parking space and well landscaped outdoor spaces and play areas.

The spaces are arranged in a manner that the visitors enter the facility from the administrative suite. There are separate entrances for the residents, which helps to maintain a certain level of privacy. A bedroom that is ADA compliant, the family room, kitchen and dining area are located on the first floor. The second floor has all the other bedrooms and a play area.



Figure 5.298. First floor plan, Site 3

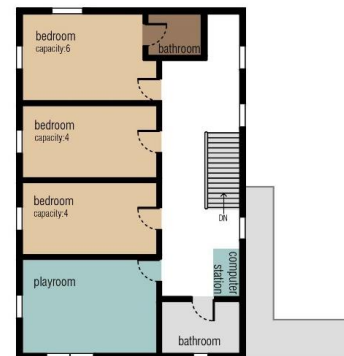


Figure 5.289. Second floor plan, Site 3

- landscaping/ gardens
- entrance porch
- admin office
- staircase
- hallway
- common spaces
- bathroom
- store
- backyard/ semi-covered porch
- rooms

Syntactic analysis

It is evident from the depth graphs that the semi-private areas are tucked to the 3rd level of depth. The counselling areas are in the administrative zone but they are closer to the resident areas like the kitchen and dining area. Because of the clustered arrangement, the resident activity spaces themselves act as pathways to one another. Thus, circulation in the facility is primarily "through" spaces. The order of spaces in accordance to their depths:

Administrative suite > ADA bedroom > Resident activity areas > Bedrooms

Semi-public

inimate

semi-private

intimate

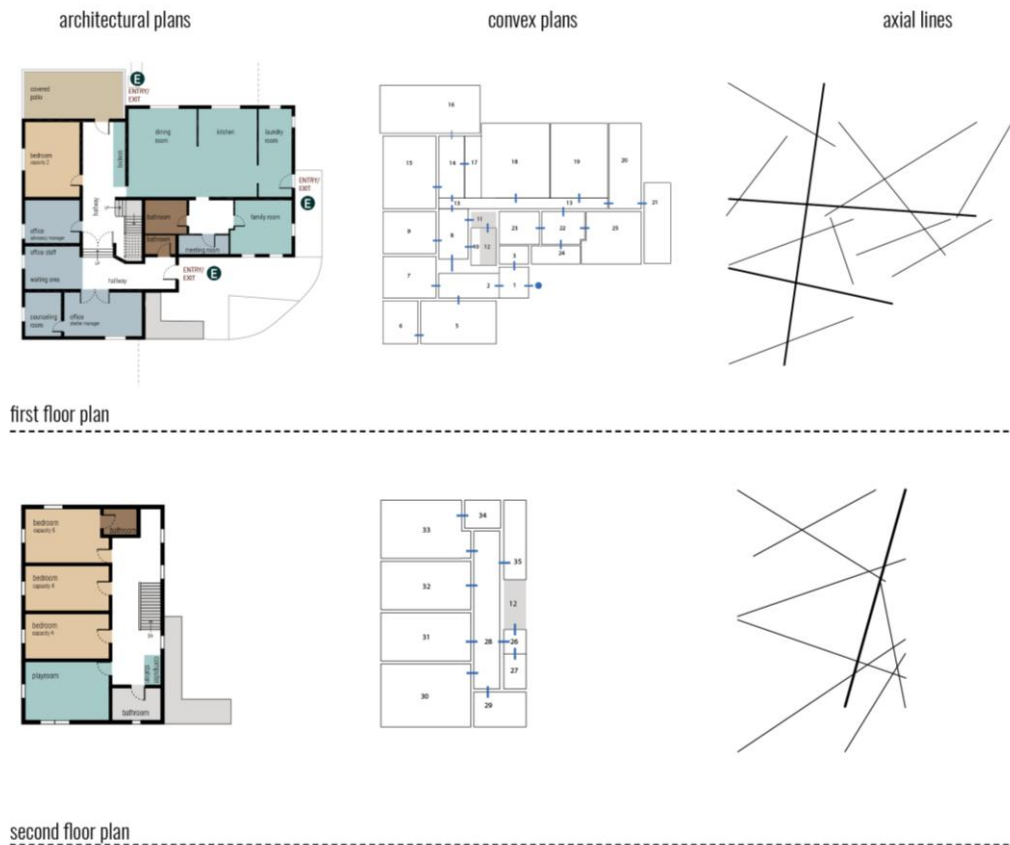


Figure 5.30. Architectural plans, convex plans and axial lines for Site 3

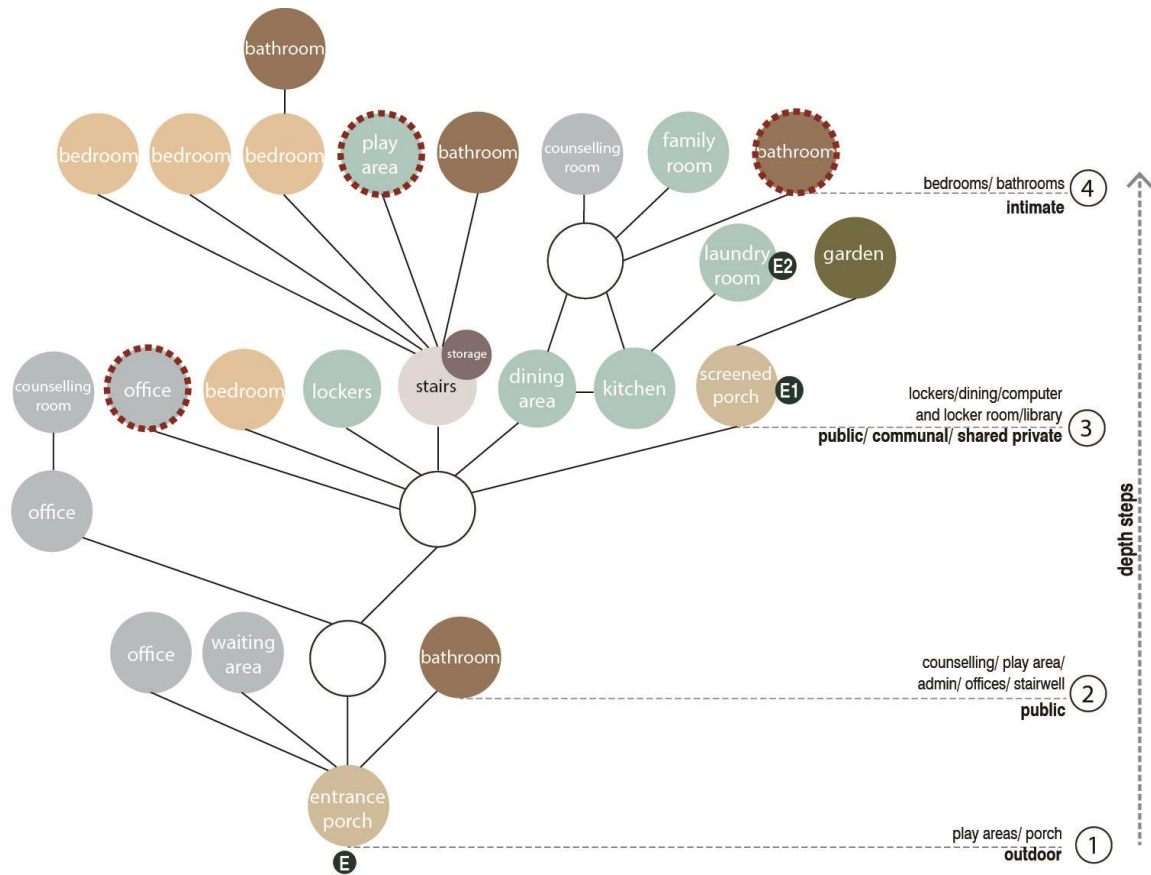


Figure 5.31. Depth graph, Site 3

Analysis based on the framework

Safety and security

75% of the built environment criteria for safety and security were met. The entry to the site is restricted and controlled by the use of a driveway gate keypad system. The entrance door is controlled by a bell system, thereby adding a second level of safety and security to the shelter homes. This facility has three entry and exits. One strictly for staff and visitors, one for the residents and a third back door to the garden which is connected

to the pedestrian gate. The provision of a separate pedestrian gate was seen as an important feature in this facility because the staff did not have to control the vehicular access door to let the residents in and out of the facility. During the interviews one of the staff members clarified that

“Our clients are not prisoners here. We open gates when they want to leave, they go to school, they work, take the kids to daycare. So we don't want to give a false impression that we're protecting them.”

This was bolstered by the responses from the resident surveys. 100% of the respondents felt safe in the shelter. The resident rooms are located on the second floor, except one that is handicap accessible and is located on the first floor. There is an ADA compliant bathroom (figure 5.32) on the first floor with adequate rounded grab bars and enough



Figure 5.32. ADA compliant bathroom

space for a wheelchair to move and rotate. Apart from the several indoor safety measures, this facility also provides several options of outdoor spaces designed with safety in mind. They have a kid’s play area that is separated from the parking lot by a fence for security

reasons. Clear sightlines from the office of the house manager allows supervision over children without being in the same physical space.

Control and privacy

Based on the built environment assessment 74% of the criteria for control and privacy were met. As mentioned earlier, the residents are given the freedom and choice of entering and exiting the shelter at any time during the day giving them control of their lives rather than making them feel like captives. The shelter does not have long institutional corridors and the spaces are well divided to offer the right amount of privacy and social interaction. The family room (figure5.33) that has the television; and the kitchen and dining areas are located close to the administrative offices but are totally cut off from the public. The family room is deep within the shelter, hence offers immense privacy. The couches and recliners along with ample natural light from the window openings makes the space very relaxing.



Figure 5.33. Family room



Figure 5.34. Bedroom with bunk beds

This facility too, like site 1 and site 2 follow a community living model. Approximately four women and children share the rooms. The residents can personalize the room with their choice of bedcovers (figure 5.34). This along with the tapestry and carpets in the rooms make them homelike, but the staff or the clients do not appreciate the provision of bunk beds. The staff at the shelter repeated that,

“If the rooms are set up like bedrooms at home, they're not bunk beds, single beds either full or queen-size, is it would not seem to be shelter like. I know we have to do that for space, but if they could look more homi....”

In spite of community living being seen as a problem, 83% of the residents prefer shared bedrooms. Residents spend maximum time in the bedrooms or the family room.

Comfort

67% of the criteria for built environment assessment were met for comfort and 100% of the respondents felt comfortable in the shelter. The site has enough parking space and manicured landscaping flanks the entrance. This makes the entry welcoming and inviting. The administrative spaces include offices of the house manager and family advocate. The hallway has several resources for the clients to use along with the daily schedules and signup sheets pinned up on the



Figure 5.35. Dining area

boards, which makes the space appear colorful. The shelter does not have long institutional corridors, but the lobby spaces and staircase block or hallways have ventilators that provide ample natural light and there is display of inspirational artwork that makes the circulation spaces very colorful and stimulating. The play area for kids is located on the second floor of the shelter and is not well equipped and furnished to suit needs of children of varying age groups. There is a minimal storage and artwork on the walls, hence making it less colorful and inviting for the children. The linen store is also located inside the kids play area. To this the staff added,

“We need more soothing colors. Colors can over stimulate kids, so more common colors... love if we had speakers installed, so at certain times of the day we could do like spa music, or calming sounds, maybe more plants in the house, maybe a tree here, or a fern there.”

Since the kitchen, dining area and family room are accessible from the internal corridor they form a separate hub that is cut off from the entry and public zones. The kitchen is spacious for multiple people to be working there at the same time. The dining area provides different types of seating arrangements, like chairs and picnic benches



Figure 5.36. Outdoor porch



Figure 5.38. Outdoor barbeque shed

that adds variation to the space. The dining area has windows that allow for ample natural light. There is ample storage in both the kitchen and dining area. The motivational and inspirational artwork and quotes make the space refreshing and stimulating. There are no doors between the kitchen, dining areas and the corridors, making the spaces flow into one another. This facility provides ample opportunity for outdoor activities (figure 5.38) and interaction with nature. The backyard has a semi-covered porch (figure 5.37) with seating arrangements that looks out on a garden where women can stroll. This provides an opportunity for solitude and refuge. Apart from the strategically located outdoor play areas, there is a barbeque shed which also doubles up as the smoking zone. This space has picnic benches and tables and looks over the outdoor play area.

Conclusion

The organization aims at creating an environment that allows the residents a certain level of freedom and independence to be able to sustain life outside the shelter. This facility scored high on all the design objectives of the built environment assessment and with respect to the satisfaction levels of the residents.

Shelter home 4



Figure 5.39. Exterior view of Site 4

Background

It is a non-profit organization that has been built as a shelter home for victims of domestic violence in 2014. They provide shelter, counseling, advocacy and support to the victims and their children. The shelter stay is decided by the counselor on case-to-case basis varying from a few days to a year. It comprises of one handicap accessible family room on the first floor and five family rooms on the second level. This shelter home is unique as it follows an individual unit model. Each room has its own attached bathroom.

Goals of the shelter

The shelter doesn't have a set of goals listed down as part of their program. However, the main focus of this faith based non-profit organization is to be able to provide safety to the victims of violence and at the same time start a new life full of self-confidence, free of abuse.

Analysis based on the dignity framework

Safety and security

The entry to the site is controlled by a driveway gate keypad system. The entrance to the facility is controlled by a bell and password protected keypad system as well.



Figure 5.40. Outdoor play area

The property is huge, covered in a canopy of trees and fenced with spaces demarcated for outdoor play and smoking. However, the entrance to the shelter is not welcoming. One enters into a huge storage like space before entering the actual facility. This could make the first time visitors perceive the facility as unsafe. The doors have an automatic locking system, hence adding another level of safety. Apart from this shelter has been deliberately designed as disability compliant. There are no steps or thresholds to enter the facility, instead there is provision of ramps wherever required. There is a room on the first floor with an attached bathroom with sufficient grab bars and required heights for the fixtures. The facility has signage's that ease the issues of way finding. There is an exit to the backyard but a lock system is in place to ensure safety.

There is provision of an outdoor play area with seating for the mothers to have clear lines of the playground. Moreover, the shelter is staffed 24 hours with one shelter manager and one advocate during the day and a manager at night.

Control and privacy

93% of the criteria from the built environment assessment criteria for control and privacy at site 4 were met. One of the most promising features of this facility is the individual unit model that it follows. Every family has its own room with one queen sized bed, one bunk bed for children and a cradle for infants or toddlers (figure 5.41). Each room

has its own attached bathroom which gives the residents a lot more privacy and control over their lives as compared to the previous community living models that were seen. Apart from this the rooms have an alcove with books and storage for toys. The thermostats are within the rooms hence giving residents control over temperature as well. The window openings are big enough to allow ample natural light inside the rooms. They have blinds to control the natural

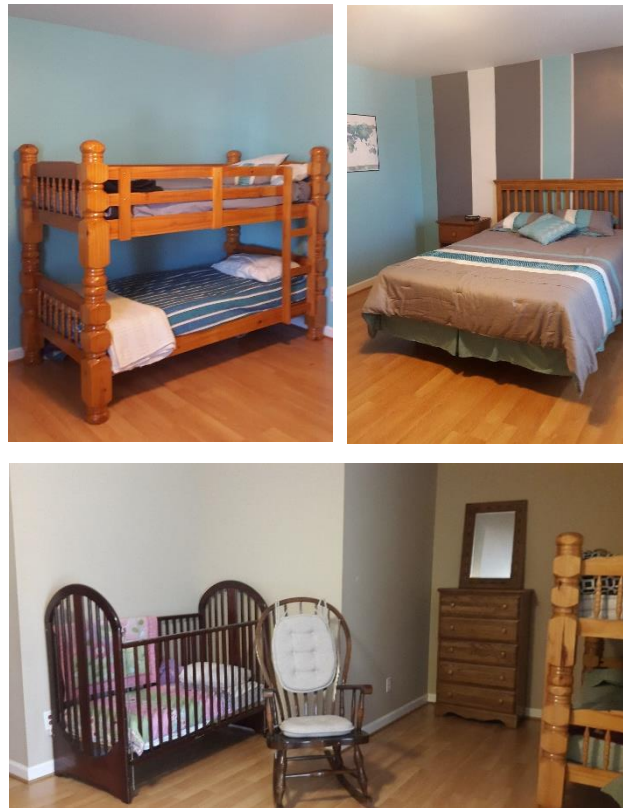


Figure 5.41. Bedrooms with varying furniture

light as well. All the bedrooms apart from the ADA compliant ones are on the second floor of the facility, away from the common areas like the kitchen, dining and family room.

The common spaces are designed to give more freedom to the users. The kitchen is big enough to ensure that 3 families can cook at the same time (figure 5.42). The dining area has been divided into multiple seating spaces that allow for groups to sit separately. However, the furniture is flexible and hence the space can double up to conduct workshops or groups for around 20 people at a time. There is a family room with a television and a separate computer room. One of the positive aspects of this facility is that there are multiple gathering spaces and hence none of the spaces ever gets crowded which helps to avoid any sort of resident clashes. There is a semi-covered back porch which looks onto a manicured lawn, where the residents can enjoy their quiet and lone time.



Figure 5.42. Kitchen

Comfort

84 % of the criteria for comfort have been met in the built environment assessment for site 4. The shelter is very comfortable and homelike in appearance. The use of a lot of chandeliers, artwork and indoor plants makes the space lively. Huge mirrors are used in the common spaces making them appear larger than they actually are (figure 5.43) This is also a means of the staff being able to keep tab on the various activities occurring in different spaces without physically being present in the space. The spaces on the first floor flow into each and are well connected. The lack of corridors makes the space homelike. However, the second level has a long institutional corridor that leads to the bedrooms. The resident rooms have a lot of color, patterns and artwork on the walls that make the space dynamic. The provision of thermostats to control the room temperature gives them environmental control that adds to the comfort of the residents (figure 5.44). The provision of a study table, separate furniture for children and toddlers, ample storage space within the bedrooms makes the space self-



Figure 5.433. Artwork, mirrors and indoor plants within the facility



Figure 5.4444. Bedrooms with thermostat

sufficient. Common stores for the kitchen and laundry rooms makes daily routine easy of the clients and the staff.

Summary

Due to the vulnerability of this population, it was not possible to get to understand the perceptions of the residents of this shelter. However, from the shelter tour, the built environment assessment, and qualitative observations, it is clear that this facility has been successful in incorporating design elements that support safety and security, providing control, privacy and comfort to the residents. The self-sufficient nature of the bedrooms makes this facility very comfortable. All the provisions within the room eliminates the need for separate rooms for meditation and lone time. However, this facility lacks space for exercise, or a common indoor play area for kids.

Conclusion

Having studied three of the facilities that are similar in terms of the community living model in detail gave a clear picture of the necessities and constraints of the shelter homes. Having studied the fourth facility that is different in its approach broadly gave a different perspective and example of what had been suggested by the staff at the first three facilities. The four facilities provided scope for comparing and contrasting what the built environment and design features had to offer to the residents.

Chapter 6

CASE STUDY COMPARISON

Introduction

In this section, a summary of the case studies is presented. Each of the facilities is analyzed morphologically, syntactically as well as with regard to the design objectives of the dignity framework. Some of the design features that support or disregard the design objectives in site 1, 2 and 3 have been listed. Based on the percentage of criteria met for each of the toolkit it was clear that site 1 and 2 are least successful while site 3 and 4 are closer to providing for the design objectives. Based on the resident surveys, the perception of safety & security, control & privacy and comfort is highest in the site 3.

Morphological and syntactic comparison

The proximity of spaces within a facility depend on the layout and the circulation pattern. All the facilities are similar in placing the resident bedrooms among the deepest of spaces. However, all of them vary in functions placed at the shallowest level. Other than site 1, where circulation occurs through long institutional corridors, in all the other three sites circulation is primarily through spaces closely linked with one another. These spaces are not only linked physically, but also visually. All the spatial entities vary even though they perform similar functions and offer similar services. A summary of their characteristics has been listed in the table 4.

	SITE 1	SITE 2	SITE 3	SITE 4
Overall shape	Linear	Clustered	Clustered	Clustered
Maximum no of residents	36	20	14	6 -10
Type of rooms	Shared	Shared	Shared	Private
Circulation type	Corridors	Through spaces	U-shaped circulation through spaces	Through spaces

Table 4. Morphological comparison across four sites

	SITE 1	SITE 2	SITE 3
Depth variations (shallow>deep)	Resident activity areas > Administrative suite > Bedrooms	Resident activity areas > Bedrooms > Administrative suite > Bedrooms	Administrative suite > ADA bedroom >Resident activity areas > Bedrooms
Mid-range common spaces as per depth maps	Family room	Kitchen	Kitchen/ dining area
Problem areas	Smoking zone Dining room Reading alcove Bedroom (basement)	Bedrooms (first floor) Lockers Screened porch Kids indoor play area	

Table 5. Syntactic comparison

The functions do not correspond to the level of privacy shown in figure 4.2 for site 1 and site 2. Based on the configuration, site 3 offers a clustered plan with a combination of corridors and circulation through spaces. This helps in embedding the intimate and communal functions at a level deeper than the public spaces. A syntactic comparative study across the facilities is seen in table 5 and figure 6.1.

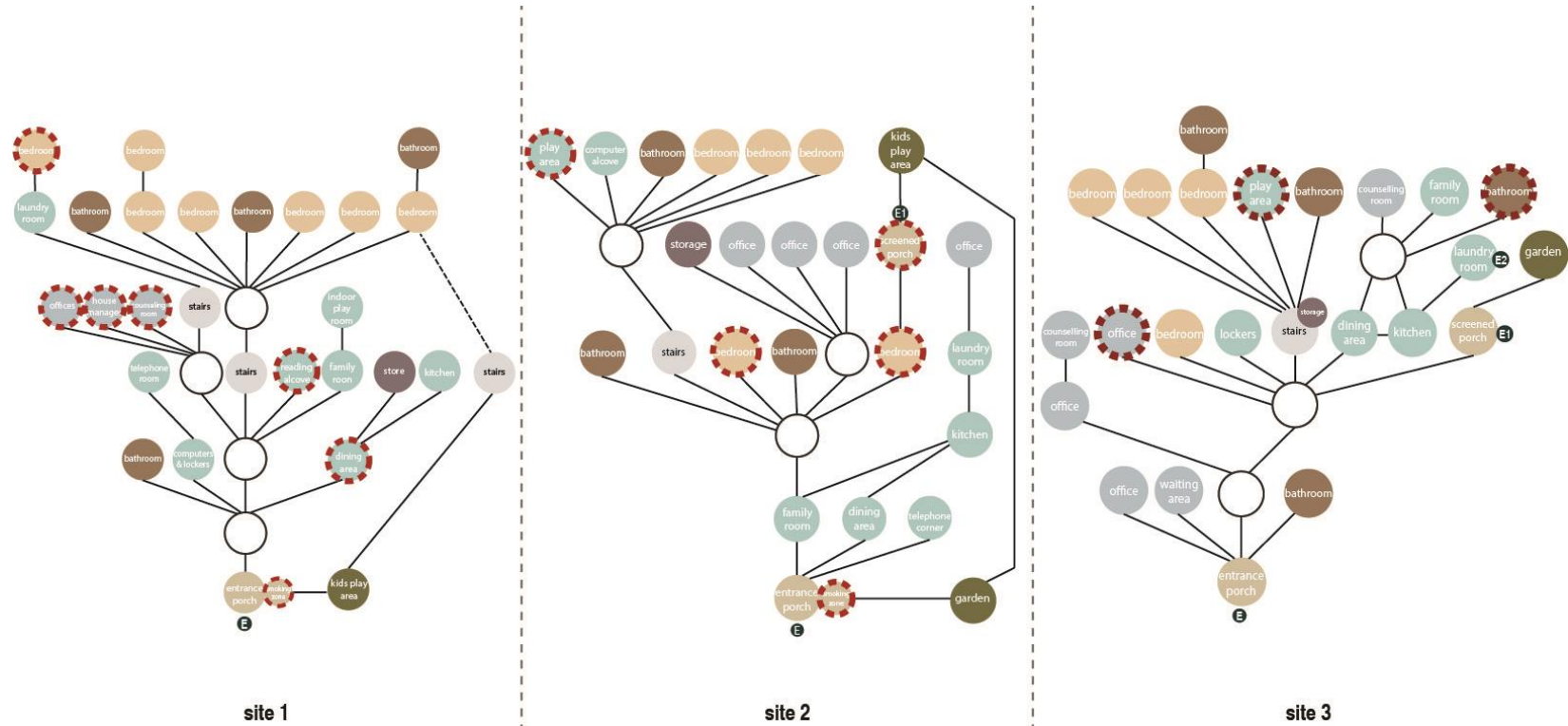


Figure 6.1. Comparison across three depth graphs

Comparisons based on the design objectives based on built environment assessment

The exterior, overall interior and individual spaces like the kitchen, bedrooms, play areas and family rooms were assessed to understand the percentage of criteria of the assessment that the facilities met in each design objective. The percentage of criteria met for each design objective at each site have been mentioned in the table and the highest two have been highlighted. Some positive (+) and negative (-) aspects of each of the site under the design objective have been listed in the table 6. The comparative table is a way of analyzing the features that were present or absent across all the facilities. This is a means of understanding the features that are consistently present in all facilities. Example, the presence of gate keypad systems, bell systems, surveillance cameras at all the sites or crowded bedrooms and common bathrooms at site 1, 2 and 3.

	SITE 1	SITE 2	SITE 3	SITE 4
<i>Safety & security</i>	<ul style="list-style-type: none"> + driveway gate keypad system, bell systems, surveillance cameras, panic systems, automatic doors in place + fenced compound - lack of ramps at the entrance and within the facility for residents with disability - difficulty in keeping control over activities in the facility and the residents due to the placement of staircases 	<ul style="list-style-type: none"> + driveway gate keypad system, bell systems, surveillance cameras, panic systems, automatic doors in place + provision of safety doors and railings at the staircase + separate entrances for visitors and residents - poorly lit outdoor spaces - lack of ramps at the entrance and within the facility for residents with disability 	<ul style="list-style-type: none"> + driveway gate keypad system, bell systems, surveillance cameras, panic systems, automatic doors in place + provision of safety doors and railings at the staircase + separate entrances for visitors and residents + provision of a separate pedestrian door + ADA compliant bathroom + provision of a fenced outdoor kids play area + clear sightlines from the admin suite to the outdoor areas + well-lit outdoor and indoor spaces 	<ul style="list-style-type: none"> + driveway gate keypad system, bell systems, surveillance cameras, panic systems, automatic doors in place + provision of safety doors and railings at the staircase + ramps at the entrance for residents with disability + ADA compliant rooms and bathrooms at the first floor - poorly lit exterior spaces
	59%	47%	75%	83%

<i>Control & privacy</i>	<ul style="list-style-type: none"> + outdoor patio allows for retreat + provision of separate room for boys + provision of locked storage for personal items 	<ul style="list-style-type: none"> + screened porch allows space for retreat but also helps keep an eye on the outdoor play area + separate entrances for visitors and residents creates a sense of control and privacy + provision of flexible and multiple seating options in communal areas 	<ul style="list-style-type: none"> + connectivity between spaces and through circulation + location of resident activity areas away from the entrance + provision of separate entrances for visitors and residents allow for privacy + personalization of tapestry and bedcovers etc. in the bedrooms. Provision of locked storage for personal items 	<ul style="list-style-type: none"> + connectivity between spaces and through circulation + location of resident activity areas away from the entrance + personalization of tapestry and bedcovers etc. in the bedrooms. + provision of separate family rooms with attached bathrooms + provision of separate furniture for varying age groups, e.g. bunk beds for children, cradles for toddlers, queen size beds for women + provision of thermostat within the bedroom + provision of flexible and multiple options of furniture in the communal areas like living room, kitchen and dining area + provision of books and kids toys within the bedrooms
	<ul style="list-style-type: none"> - crowded bedrooms and common bathrooms - lack of personalization in the bedrooms - provision of resident activity areas in the public zone 	<ul style="list-style-type: none"> - crowded bedrooms and common bathrooms - lack of personalization in the bedrooms 	<ul style="list-style-type: none"> - crowded bedrooms and common bathrooms - Lack of flexible furniture in the communal areas 	
	62%	65%	73%	93%

<i>Comfort</i>	<ul style="list-style-type: none"> + provision of fireplace; indoor plants adds to the residential character 	<ul style="list-style-type: none"> + absence of corridors makes it homelike + several configurations of seating options + adequate natural light 	<ul style="list-style-type: none"> + several configurations of seating options + adequate natural light due to provision of skylights + presence of color, artwork and inspirational quotes + multiple opportunities for outdoor activities 	<ul style="list-style-type: none"> + provision of fireplace; indoor plants adds to the residential character + absence of corridors makes it homelike + several configurations of seating options + adequate natural light + presence of color, artwork and inspirational quotes + provision of space enough for around 3 families to cook in the kitchen + provision of attached bathrooms + provision of thermostats for temperature control within the rooms - lack of play area for kids
	<ul style="list-style-type: none"> - lack of natural light and views to the outside - lack of control over temperature with the bedrooms 	<ul style="list-style-type: none"> - insufficient storage space - lack of control over temperature with the bedrooms 		
	57%	47%	64%	81%

Table 6. Comparison of design features across four sites

A comparison across the four facilities suggest that site 3 and site 4 are more successful than site 1 and 2 in providing elements that could support the design objectives (safety and security; control and privacy; and comfort) put forth in the dignity framework.

Comparisons of resident perceptions based on surveys:

	SITE 1	SITE2	SITE3
<i>Survey response</i>	65 %	56 %	67 %
Safety & Security			
<i>What % of the respondents feel safe?</i>	69%	71 %	100 %
<i>Where do they feel safe</i>	bedroom	bedroom	bedroom
<i>What features make them feel safe?</i>	presence of staff , installation of cameras	presence of fellow residents, installation of cameras, presence of fenced compound	presence of staff, installation of cameras
<i>Where do they feel unsafe?</i>	porch	family room	porch
Control & Privacy			
<i>Room preference</i>	61% prefer shared rooms	57% prefer private rooms	81% prefer shared rooms
<i>What % of respondents feel in control of the environment?</i>	less than 30%	less than 40 %	less than 30 %
Comfort			
<i>What % of the respondents feel comfortable?</i>	62 %	0 %	100 %
<i>What spaces make them comfortable?</i>	counselling rooms, quiet rooms	counselling rooms, quiet rooms	counselling rooms, views to nature

Table 7. Comparison of resident perceptions based on surveys

Each of the site is perceived to be safe to a certain extent by the residents. However, site 2 and 3 having multiple entry and exits to ensure segregation of staff and resident access points are perceived to be safer than site 1. Bedrooms appear to be the safest places at all

the facilities. This survey finding is bolstered by the syntactic analysis of all the cases which shows that the bedrooms are embedded deep into the system. The analysis of surveys (table 7) at site 1 and 3 show that maximum residents prefer shared rooms over private rooms. However, it is very evident from the staff interviews that community living and crowding in the rooms were major issues for the clients.

Some of the major factors contributing to safety and security are personal safety. The definition of personal safety is not restricted to physical safety but also encompasses the idea of emotional safety which is closely associated with comfort and control of residents over the space and environment.

Control was expressed as the freedom of modifying the environment, personalizing the space, availability of storage and usable space. Privacy was commonly referred to lack of individual space and time, overcrowding and communal living being spoken of problems. Lack of enough spaces for social interaction and flexibility of furniture and spaces was also considered a negative aspect.

The concept of a space being homelike is very closely linked to the idea of comfort. Also, control over the environment gives the residents a sense of comfort. One of the major drawbacks was that the facilities failed to tap the potential of outdoor spaces. Site 1 did attempt to do so. However, none of the facilities succeeded. In the next chapter, all the insights gained from the case studies and literature are incorporated to refine the design objectives.

Chapter 7

REDEFINING THE DIGNITY GOALS & REVISING THE TOOLS

Introduction

The purpose of this study is two-fold. Firstly, to explore the qualities of the environment of a DV shelter. The understanding of how the design of such facilities affects the survivors in a therapeutic manner and supports them to recover from the traumatic experience to return to a state of consensus and balance with dignity is of prime importance. The study provides an overview of the spatial attributes and the impact of the physical environment on residents. This chapter synthesizes thoughtful design considerations for domestic violence shelter homes.

In order to explore the built environment of DV shelter homes, a set of tools was created. The second phase of this study was to re-examine the tools and amend them based on the findings and responses to improvise and benefit from more development.

Based on the spatial needs of the clients identified from the resident survey and the study from the depth maps, the desired adjacencies of the spaces were determined to create a matrix. These adjacencies are ranked as highly desired adjacency, medium desired adjacency or undesirable adjacency. This matrix can be a useful planning tool while designing shelter homes.

Redefining the design objectives and creating a set of design considerations

The four facilities were studied and the goals were analyzed in light of the insights gained from observations, surveys and interviews. In this section, the results of the analysis are presented so that each design objective of the dignity framework incorporates relevant literature along with insights from the studies which eventually lead to creating a set of design considerations. The indicators of each of the objective were identified. It was found that some of them were not considered initially during the study. For example, in the toolkit privacy was looked at primarily from the aspect of personal or intimate space. However, the dimension of socialization and interaction was only touched upon partially in the tools. It came up as a major component of the case studies. These helped in identifying the modifications required for defining the objectives better.

Safety and security

Safety, often the biggest concern for shelter residents and staff is the condition of being free from risks and danger. Understandably, personal safety and security from the abuser are the primary reasons that women seek shelter in the first place. Preventing children of the victims who are at high risk of danger is also of utmost importance to a woman fleeing an abusive relationship. This objective also involves safety and security of the staff of the shelter homes and safety from fellow residents.

Safety and security was listed as the most important goal by all the facilities. All of the facilities have systems installed to ensure safety of the residents like driveway gate keypad system, bell systems at the entrance door, surveillance cameras at the entrance and

within the facility, panic systems, automatic doors and fenced compound walls. These address the concern of safety from abuser or outsiders. Site 1 does not provide ADA complaint rooms on the first floor. Site 2 provides rooms on the first floor but they do not comply with the regulations for disabled. Site 3 provides a room on the first floor along with an ADA compliant bathroom. This meets the requirement of residents with disability needs. From the point of view of safety of children, site 3 and 4 have safety doors to the staircases for safety. Site 3 has a fenced outdoor play area. Also the administrative block is located such that it facilitates supervision over the children without being in the same physical space. One of the major concerns seen in the studies was the aspect of risk from fellow residents. The staff of site 1, 2 and 3 reported incidents of theft due to the model of community living. None of the facilities has surveillance cameras on the second floor where most of the resident bedrooms are located to offer a certain level of privacy to the residents.

Based on the studies conducted in all the facilities a few design recommendations could be made. These include features from the original toolkit or modifications to the tools based on the case study observations and finding from the interviews and surveys.

Exterior

- Installing driveway gate keypad systems at site entrance, bell systems at the entrance door of the facility, surveillance cameras at the entrance and within the facility, panic systems, automatic doors and fenced compound walls.
- Provision of well-lit outdoor spaces.

- Providing visual screens or chain-link fencing along the site boundaries for safety and confidentiality (figure 7.1).
- Provision of ramps outside and within the facility for the disabled.
- Protected outdoor play spaces for children visible from administrative suites, common spaces and/or individual units that allows staff or parents to supervise children.
- Provision of outdoor gathering spaces for public events.
- Designated smoking areas should be designed such that are not threatening to other residents.

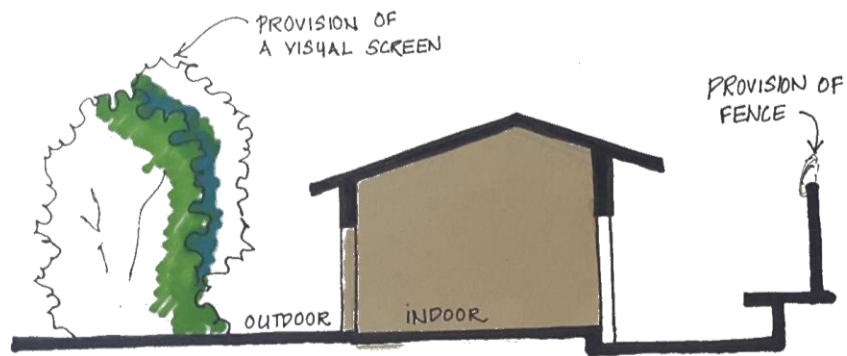


Figure 7.1: Provision of visual screens and fencing along site boundaries

Interior

- There should be distinct separation between public, shared private, private and intimate spaces.
- Clear visual access to help the staff in maintaining scrutiny over the activities occurring in the common areas. At the same time the residents feel in control of the space due to clarity.

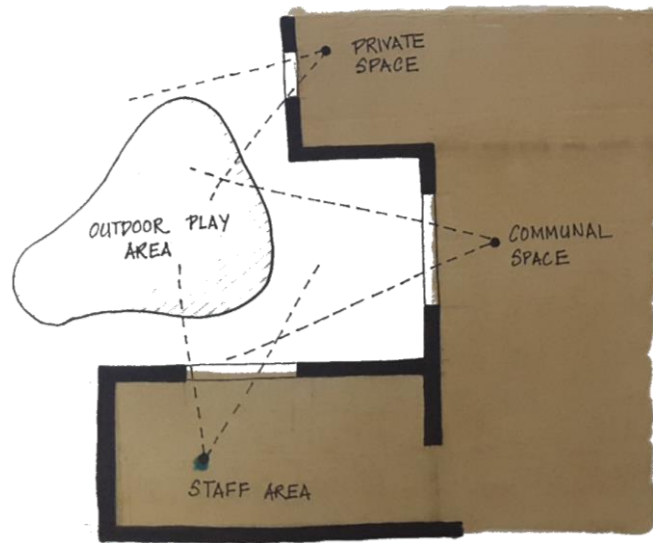


Figure 7.2. Clear sightlines to outdoor play areas

- Provision of a play area near the advocacy, intake rooms facilitates interaction of adults with staff, but takes into account supervision over children without them being in the same physical space.
- Continuous handrails should be fixed along staircase blocks for both adult and children heights. These help residents with injuries and ensure safety.
- Provision of safety doors at staircase blocks to keep control over children.
- Placement of resident rooms should be such that they can be easily supervised without impinging on their privacy.
- Provision of lockable storage for each person is preferred and adds to safety of valuables that the residents get along with them.

- Provision of a mixed configuration of bedrooms, like family rooms, twin sharing bedrooms or single units to avoid or minimize conflicts and threat from roommates.

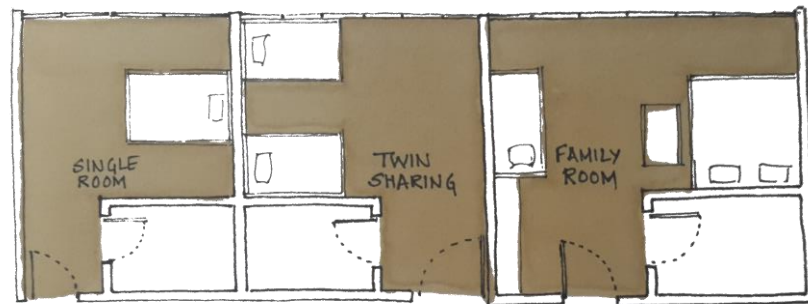


Figure 7.3. Provision of mixed configuration of rooms

- Provision of ADA compliant bedrooms.
- Provision of ADA compliant bathrooms with sizes and heights of fixtures and placement of rounded grab bars as per requirement.

Hence, it is evident that the concept of safety and security do not relate only to the aspects that affect physical safety. It also means psychological and emotional security. It is the extent to which the environment and the policies are designed to be able to protect their clients but at the same time foster a sense of dignity among the residents.

Privacy and control

Privacy is a psychological state where person feels secure and comfortable, and it is said to have a positive therapeutic value (Newell, 1998). Privacy can be defined as the freedom to control or choose levels of interaction. The ability to exercise control allows one to choose isolation or allows for socialization. Separation of various functions based

on their use supports the idea of creating various levels of control hence contributing to privacy, freedom and autonomy. Privacy relates not only to independence, autonomy, and identity, but also to safety, stress reduction, and healing. There have been mixed responses of residents towards shared rooms or individual rooms. Though women prefer to have their alone time, sharing rooms helps to establish a bond between the residents. Since everyone is dealing with trauma at a different level, some like to be isolated while some prefer being around people. The facility should be able to provide for this choice that the clients make.

Residents control over the environment like ability to control light, ventilation and temperature in the room, or to furnish the rooms as per their preference is also a measure of control. Site 1 and 2 were not successful in providing opportunities for control and privacy. Site 3 was partially successful in doing so. Site 3 had clear distinction of public spaces from private areas which gave the residents a sense of privacy. At this site the residents have the opportunity to control the furniture arrangement, bedding and tapestry. The community living model in site 1, 2 and 3 does not give the residents an opportunity to control light, ventilation and temperature in the room, site 4 follows an individual model and gives the residents control over the environment. None of the four sites offers too many options of space use, like meditation rooms, exercise rooms, activity rooms, which encourage the residents to pursue their interests. In all the facilities the dining area or the family rooms double up as spaces for activities or groups. Site 1 has a garden with the intention of being able to incorporate gardening as a therapeutic activity. An important aspect that came up in the interviews and surveys was the need for more spaces that offer privacy and lone time to the residents apart from the bedrooms. But at the same time there

has been emphasis on socialization. At policy level all the facilities conduct group activities to support this, but there is no specific built feature to encourage either solitude or socialization. The background study and framework did mention territoriality, but did not emphasize on the socialization aspect of it.

Based on the observations and literature review, a few ways have been listed in order to be able to achieve this goal.

Exterior

- Access to public transport, grocery, healthcare, educational and recreational facilities support residents to access resources and regain independence, economic opportunities, and social connections.
-
- Creating a range of multiple outdoor spaces for various user groups and activities like healing gardens, play areas for different age groups differentiated by color and materials, barbeque areas, smoking zones, gardening areas, group gathering areas and areas for solitude.

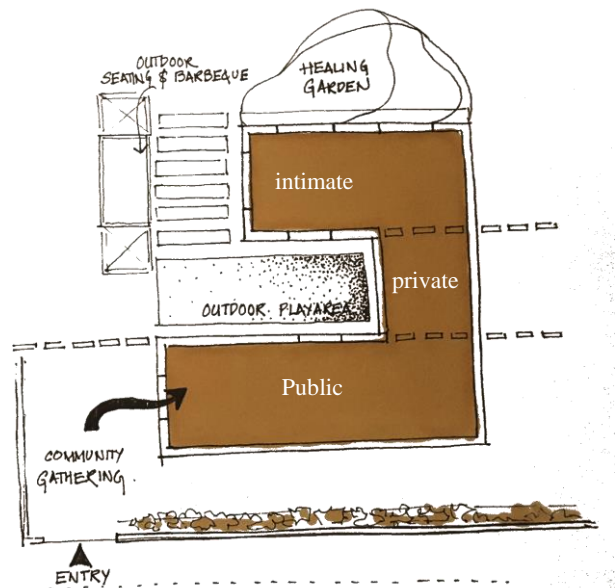


Figure 7.4. Range of outdoor spaces

Interior

- Provision of various options of private, shared-private and public areas should be provided for the residents to choose where they want to be and what they want to do.
- The public areas like intake, advocacy and administrative suite should be kept separate from the resident use area. Creating a hierarchy of spaces and separating shared resident spaces from intimate zones creates multiple interaction levels that enable socialization or isolation when needed.
- There should be provisions for residents to retreat from larger groups (figure 7.2). This can be done by providing window seats, alcoves that let them remain connected to the public as well.
- Easily movable furniture allows for re-configuration and flexible use of space.
- Family rooms instead of shared rooms provide more control and privacy to the residents. This also enables the opportunity for personalization of rooms with their own possessions.
- Provision of individual attached bathrooms instead of common bathroom stalls, gives families a sense of control over their lives.

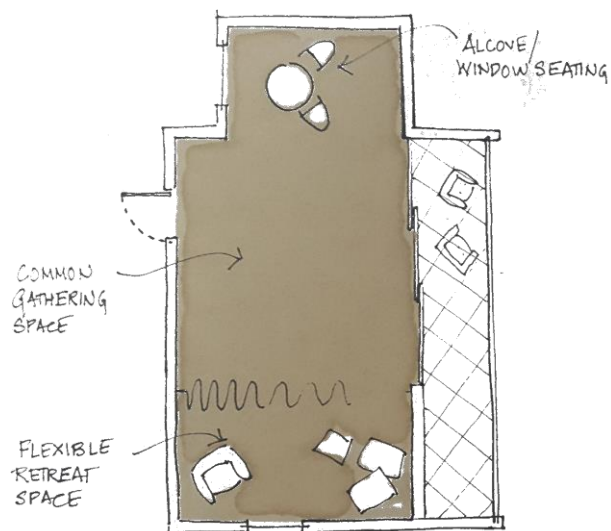


Figure 7.5. Provision for retreat

- Control of lighting and thermostats allows residents and staff to adjust levels of light and temperature in individual rooms/units and in the communal spaces to create intimacy or facilitate tasks (for example, reading light next to sofa, overhead lights, operable windows, and ceiling fans).
- Resident can be provided control of both light and transparency through adjustable window blinds or shades.
- In case of incapability of the organization to provide individual rooms, the shelter should be able to provide for quiet rooms, meditation rooms, exercise rooms, library alcoves.
- Accommodating pets and providing indoor and outdoor space for them.

Comfort

One feels comfortable only when there is a certain level of safety and security and one is in control of the surrounding environment. There is an overlap of concepts from all the other goals with comfort. Personalization of place, sense of belonging, connection to nature, creating a home-like ambience, all contribute to making the environment comfortable. Physical comfort can be attained by giving residents control over the environment, Comfort is divided into several subtopics, consisting of materials, art, view, visual comfort, acoustic comfort, and orientation. These can have an influence on the well-being of the residents.

Site 1 and 2 did not offer residents too many opportunities for personalization, and control over environment. However, site 3 and 4 have been relatively successful in

providing a comfortable environment. Site 3 has a community living model, but the use of colors, indoor plants, and artwork within the facility, which makes the facility homelike and comfortable. A few design suggestions that make the environment comfortable for the residents are listed below.

Exterior

- Calming outdoor features, access to views of nature, healing gardens with art therapy sessions promotes wellbeing.
- Creating a welcoming environment with the use of colors, imagery and references that are culturally relevant to the people the program serves is helpful.

Interior

- Position rooms, windows, and skylights to maximize natural daylight and increase views of natural features like gardens and trees to create a connection of the inside-outside and still maintain a sense of security.
- Flexible furniture supports multiple types of activities and age groups. For instance, smaller tables may be pushed together for communal dining or separated for craft activities. Child-friendly furniture such as oval or round tables (without sharp corners)
- Shared private resident use activity spaces must be located away from quiet areas – such as bedrooms to avoid disturbances.
- Generous storage of common items and separate lockable storage for personal items makes daily activities easy and comfortable for the residents and staff.

- If the shelter has a community kitchen, it should be planned for multiple users with generous countertops, multiple sinks and dishwashers. This adds to the comfort and control aspect.
- Use of color, texture and proportions can make a space feel uplifting, familiar and friendly.

In order to achieve the ultimate goal of creating a space for dignified living for women, there is a need to create a structured program with spaces allocated for certain functions. Spatial analysis was crucial in understanding the desired and undesired adjacencies of spaces housing different functions within a facility. First a list of spaces was developed based on the findings from the staff interviews and responses from resident surveys regarding their needs and expectations. For example, the interviews with staff highlighted the need for pet kennel, the residents expressed the need of quiet/ reflection rooms. These findings were used to triangulate findings from morphological and syntactic study of the facilities to estimate highly desired, medium desired and undesired adjacencies of spaces for a program. Based on the various indicators of each design objective and the spatial needs of this population, an adjacency matrix (table 8) is created to understand the proximity of spaces in a manner that they can cater to the design objective and the suggestions listed above.

Based on the spatial analysis, built environment assessment, findings from surveys and interviews and programmatic requirements, the ideal depth levels have been derived. The spaces that belong to each particular level of depth have been listed in figure 7.6.

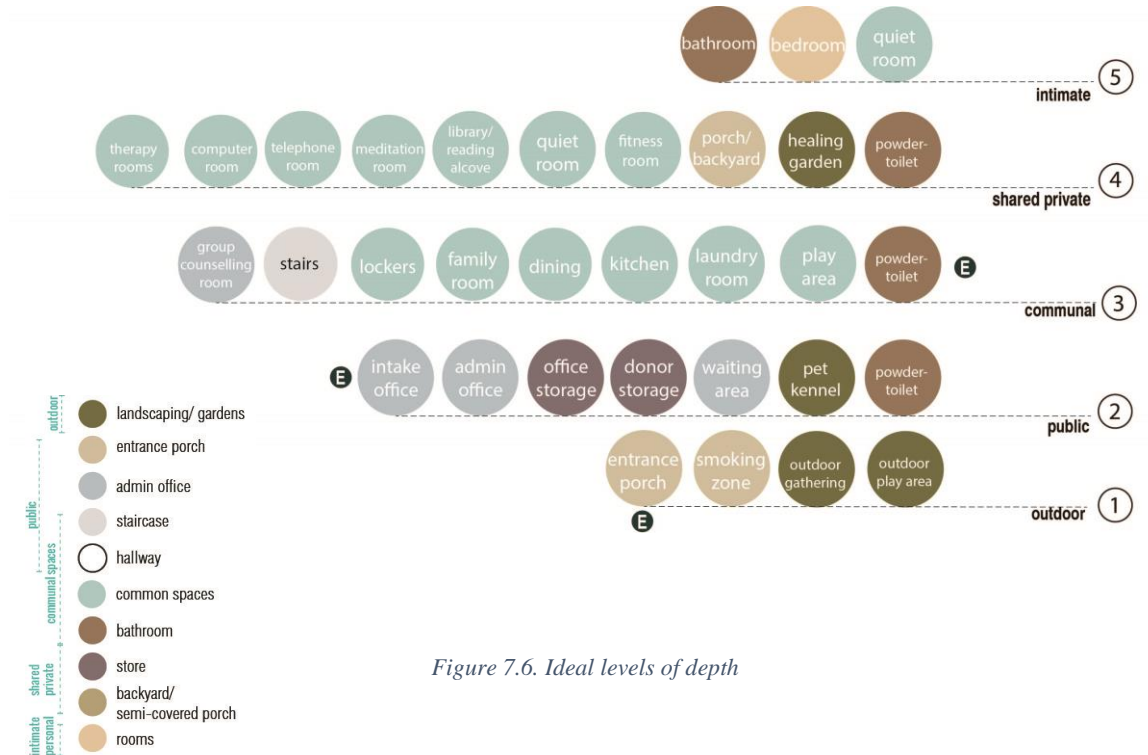


Figure 7.6. Ideal levels of depth

Revising the toolkit

Based on the findings from survey and interview data, the spatial needs of the residents, and security features, control and privacy measures necessary for this population, design features that can make a comfortable environment for the residents, suggestions for modification to the built environment assessment toolkit and the resident survey are suggested. As mention earlier the concept of socialization needs to be incorporated under

the section of privacy and control. For e.g. it was very evident from the staff interviews that the clients go through an intake process before being admitted to a shelter. If the residents are identified to have extreme suicidal tendencies or are violent in a sense that they could harm themselves or affect the safety of others in the shelter, they are referred to the emergency medical services (EMS) for treatment before they can stay at the shelter. Hence the residents in the shelter are not at major risk or danger from themselves. The original checklist included items like “provision for protection from sharp objects” or “presence of ceiling fans/ hooks or loops from the ceiling” that were modified or reworded. These modifications have been marked in red in the appendices.

Similarly, the resident surveys could have been worded better in order to understand more about the perceptions of the facility. The surveys have been modified in a way to figure out the reasons behind some of the choices that the clients made in the surveys. The original survey has been maintained as is in the appendix and the suggested modifications have been highlighted in red with the replacement questions in blue.

Conclusion

In this chapter a revised set of design objectives were formulated based on the insights from the case studies. It is evident that the framework of dignity incorporates a complex set of concepts that affect the creation of a supportive environment. The objectives like ‘safety and security’, ‘privacy and control’ and ‘comfort’ determine the relationship of the resident and her environment or fellow residents or staff. The last chapter suggests future direction for researchers in this field of study.

Chapter 8

CONCLUSIONS

It is evident from this research that environment affects human wellbeing. The design objectives mentioned in the framework are not only aspects of the physical setting, but also relate to emotional and psychological healing. Shelter design can have a major impact on the residents to begin their new chapter of life with dignity. There have been several studies based on shelter policies, programs, effects of domestic violence and needs of the survivors, but very few studies on the design of domestic violence shelters. It is a hope that this study will help several architects and administrators in this field to create and design shelters with supportive environments.

Contributions of the study

The purpose of this research was to study the spatial qualities of a DV shelter. An extensive literature review was conducted to understand the existing knowledge and the gaps in this area of study. There were no relevant existing tools that could be directly applied to this population and used to conduct research. The literature review lead to the creation of a framework of dignity that comprised of three design objectives; safety and security; privacy and control; and comfort. These were used as a basis to create the built environment assessment tool, the surveys and interview questionnaire for case studies.

Spatial comparative analysis across the identified facilities was conducted using the concept of space syntax to understand the effect of layout and design on the objectives listed in the framework. The perceptions of resident were gathered through resident surveys

and staff interview helped in understand the goals of the organization and how the built environment facilitated or impeded the fulfilment of these goals. All of this helped in amending the tools to fit the study appropriately. The spatial requirements were listed to create the adjacency matrix which would be a basis for developing the program for any facility to be designed. Also, the study derived a set of design considerations based on the literature review and case studies.

Challenges

One of the major challenges is that of insufficient funds. Domestic violence is a widespread issue but due to budget and time constraints, domestic violence shelters are often not designed to best support the needs of residents and shelter staff, unfortunately. Moreover, shelter homes are rarely built from ground up. They are mostly repurposed into existing structures, and such spaces have challenges like space crunch and commercial interior spaces. Hence it is assumed that the toolkits created in this study and the set of design considerations put forth will benefit designers by providing a base for renovating or designing a shelter.

The author was not permitted to interview the residents at the facilities due to security reasons. Future research involving shelter resident interviews would be beneficial and would better triangulate findings from multiple perspectives. Interviewing multiple staff members and residents that have worked or lived at the shelter for various amounts of time would also create interesting results.

Future research directions

The following research questions could be addressed in the future

1. What would be the area take-offs for the various spaces in any shelter home with respect to the occupancy of the facility?
2. What proportion of public to private to intimate spaces creates a safe, private and comfortable environment?
3. Is the Trauma-informed approach put forth by the Substance Abuse and Mental Health Services Administration (SAMHSA) appropriate and relevant to study the built environment for survivors of domestic violence?

Conclusion

Since there are very limited resources that throw light on this sweeping and wide-ranging problem, it was assumed that this research would help in assimilating knowledge of the kind of spaces that would support the residents to regain their lost identity and self-worth. By shedding light on this issue, the author hopes to encourage and improve existing and future shelter environments, with the aim of improving the shelter experience and lives of those who use these spaces.

APPENDICES

Appendix A

BUILT ENVIRONMENT ASSESSMENT TOOLKIT

Page 1: BUILT ENVIRONMENT ASSESSMENT TOOLKIT		
<p>The toolkit has been created for the evaluation of the existing shelter homes based on 3 design themes:</p> <p>Safety and security Comfort and control Comfort</p>		
	Design Objectives	Definition
1	Safety and security	<p>For those who have experienced trauma, safety is their foremost concern when entering a shelter or service environment. Safety involves both physical safety (protection from violence and physical and sexual abuse) and psychological. Domestic and sexual violence against women leads to far-reaching physical and psychological consequences, some with fatal outcomes. During recovery victims may face suicidal tendency, substance abuse (victim may take to alcohol or drugs). The environment should minimize threat to the resident safety (from outsider as well as other fellow residents) and maximize security of residents and staff. Security features identified by youth in a particular study by Chanmugam included high walls and fences, cameras, numerous locks on exterior and interior doors, lockers, and surveillance windows where staff watched residents from behind the glass. The most unpopular rules concerned those about bedtime, evening curfew, and ongoing close parental monitoring. Other rules disliked by youth included limits on television and computer access, the inability to eat when hungry, mandated quiet times, sign-in/sign-out procedures, inability to bring pets, dress restrictions (e.g., shoes required in common areas), and prohibitions on children from different families playing in one another's rooms. The rule-bound environment magnified the differences between home and shelter and underscored the institution's authority over family norms (Chanmugam, Amy 2015). The environment should minimize threat to the resident safety and maximize security of residents and staff. Strategies to strengthen safety from abusers outside the shelter and organize communal life among strangers within the shelter can result in a space where residents live under surveillance, with movements</p>

		monitored so closely that for some residents the social aspects resemble the power and control aspects of domestic violence dynamics they fled (Chanmugam 2011).
2	Control and Privacy	Control is the power to influence or direct people's behavior or the course of events. It is defined as the extent to which an environment facilitates personalization and conveys territorial claim to space. Privacy is the ability to control access for ourselves and our environment (Kopec, 2006). This becomes important to victims of domestic violence because their lives are defined by lack of control (Pable, 2010). Privacy needs to be defined in terms of freedom to choose or restrict social interaction, and to control others' access to information about oneself. Each person has a sphere of existence and activity that belongs to that individual alone, where he or she should be free of constraint, coercion, and even uninvited observation. It is the ability of an individual or group to seclude themselves or information about themselves.
3	Comfort	The domestic violence shelter can create an empowering, comfortable and home-like environment where women are able to reclaim their identities, create routines, and personalize their environment (Haj-Yahia & Cohen, 2009; Marcus, 1995). A home-like environment can be achieved through the interior with warm lighting, furniture that does not look institutional, and residential style accent pieces. Several environment/behavior researchers have suggested that, one way to achieve a more social and "homelike" environment is to provide public, semi-public and private spaces in close proximity to one another, and to avoid long "institutional" corridors (Calkins, 1988; Cohen and Weisman, 1991; Liebowitz, Lawton and Waldman, 1979). Comfort is divided into several subtopics, consisting of materials, art, view, visual comfort, acoustic comfort, and orientation. These topics describe the influence of the physical environment on the well-being of the patient. Facilities where treatment occurs are being designed with familiar, residential elements that communicate healing, comfort, and a sense of optimism.

Page 2: BUILT ENVIRONMENT ASSESSMENT TOOLKIT	
A. General Information	
Organization name	
Organization Address	
City	
State	
Zip	
Total Building area	
Number of crisis calls per day	
Total staff	
Maximum resident capacity of the shelter	
B. Provision of services	
Risk assessment and safety planning	
Medical treatment	
Counselling services	
Legal assistance	
Accommodation	
Financial and economic assistance	
Social change and awareness-raising	
C. Type of Facility	
Is it a designed or repurposed building	
Is it an emergency/transitional/long term shelter	
D. Photo protocol	
Photo of the exterior	
Photo of outdoor spaces like play areas, parking lot etc.	
Photo of the entrance porch	
Photo of the administrative block	
Photo of the kitchen	
Photo of the dining area	
Photo of the communal areas like family rooms, counselling rooms if any	
Photo of the indoor play areas	
Photo of the staircase block	
Photo of the resident rooms	
Photo of the bathrooms	
Photo of the backyard / back porch if any	
Photo of the administrative block	

Pg3		Building Exterior/ Site	
		Design evaluation criteria	
Theme 1	<i>(safety and security)</i>	Access to the shelter from major public transport stations	
		Access to major landmarks in the city	
		Proximity of the shelter to educational institutes	
		Availability of ADA compliant parking	
		Presence of ramps or lifts at the entrance for residents with physical injuries	
		Provision of automatic doors at the entrance	
		Well-lit outdoor spaces	
		Presence of surveillance systems/cameras at the entry and exit points of the site	
		Presence of surveillance systems/cameras at the entry and exit points of the building	
		Provision of bell system at the entrance	
		Provision of Gates/locks to the site to control entry and exit	
		Provision of boundary walls or fencing to the site	
		Provision of alarms on site accessible by resident in case of crisis	
		Provision of shades/patios for protection from climatic conditions like rain	
		Limited visibility into interiors from the exterior	
		Protected outdoor play spaces for children visible from indoor to supervise	
		Use of plants that are perceived as pleasing and not hostile (e.g. cacti)	
Provision of designated smoking areas			
Theme 2	<i>(control and privacy)</i>	Opportunities for solitude(benches/chairs/swings)	
		Opportunities for socializing(picnic tables/barbeque areas)	
		Provision of designated smoking areas	
		Providing visual screens or chain-link fencing along the site boundaries	
Theme 3	<i>(comfort)</i>	Provision of healing gardens	
		Provision of walking/jogging/cycling tracks (physical activity) for residents	

		Provision of range of areas accommodating various age groups and activities		
		Provision of outdoor play areas for children		
		Provision of space for outdoor social gathering like barbeques/ gardening spaces		
		Use of aesthetically pleasing landscape landscaping		
		Provision of designated smoking areas		
Pg.4		Building Interior		
		Design evaluation criteria		
Theme 1	<i>(Safety and security)</i>			
			Presence of ramps or lifts for residents with physical injuries	
			Provision of rooms at the entry level for wheelchair bound residents	
			Provision of automatic doors systems	
			Provision of alarm systems on the site for residents to use in case of crisis	
			Ease of video monitoring the activities in common areas and entrance door through cameras positioned in strategic locations	
			Clear signage's within the shelter	
			Separation of residential corridors and rooms from public areas	
			Well-lit(artificial or natural) circulation spaces	
			Provision of artwork/sculptures for better orientation	
			Location of surveillance systems/cameras within the circulation spaces and common gathering spaces of the shelter	
			Presence of railings at the top floors for safety of kids	
			Provision of safety doors at the staircase blocks	
	Provision of multiple small gathering spaces rather than one big space			
Theme 2	<i>(control and privacy)</i>			
			Clear segregation of spaces ranging from public to semi-public to private	
			Absence of long corridors	
			Provision of carpets in spaces other than circulation zones and administrative suite	
			Provision of a variety of group rooms	
	Provision of a variety of seating options/nooks/smaller seating areas			

		Provision of flexible seating that can be rearranged/reconfigured and adapted to groups needs	
		Provision of locked storage for personal belongings	
		Use of color within the shelter	
		Use of standard furnishing throughout the shelter	
		Option of controlling the temperature within the shelter	
Theme 3	<i>(Comfort)</i>		
		Presence of display of artwork or indoor landscaping	
		Provision of soothing music	
		Use of acoustical solutions to minimize noise	
		Dedicated space for meditation or exercise for the residents	
		Provision of windows to allow for natural light, ventilation and views	
		Access to nature(healing gardens/covered patios/gardens)	
Rooms			
		Design evaluation criteria	
Theme 1	<i>(Safety and security)</i>		
		Location of surveillance systems/cameras at the door of the rooms	
		Provision of alarm systems for residents to use in case of crisis	
		Rounded edges of furniture to ensure safety	
		Sufficient and safe height of ceilings	
		Absence of ceiling fans/hooks/ loops from the ceilings	
		Provision of individual lockers in shared rooms	
		Provision of multiple configurations of rooms like single, sharing and family rooms	
		Provision of ADA compliant bedrooms and bathrooms	
Theme 2	<i>(control and privacy)</i>		
		Provision of rooms for the physically challenged residents	
		Provision of separate rooms for boys	
		Provision of attached bathrooms/toilet	
		Presence of locking system for each of the bedrooms	
		Flexibility with furniture; control over positions of bed	
		Permission to get personal items like furniture or photographs, artwork	

		Provision of locked storage for personal belongings	
		Variation in room colors and furniture to suit personal preferences	
		Control over room temperature	
		Provision of windows/blinds to allow/control natural light, ventilation and views	
		Provision of sufficient/adjustable night-lighting	
		Provision for accommodating pets kennels	
Theme 3	<i>(Comfort)</i>	Presence of separate furniture in the bedroom to accommodate children	
		Use of acoustical material to minimize noise within the room	
		Presence of display of artwork or indoor landscaping	
		Provision of soothing music	
		Provision of windows to allow for natural light, ventilation and views	
		Are the rooms shared by 2 or less than 2 people	
Kitchen and Dining area			
		Design evaluation criteria	
Theme 1	<i>(Safety and security)</i>	Location of surveillance systems/cameras in the kitchen and dining space	
		Provision of alarm systems for residents to use in case of crisis	
		Rounded edges of furniture to ensure safety	
		Absence of ceiling fans/hooks/ loops from the ceilings	
Theme 2	<i>(control and privacy)</i>	Adequate space for multiple people to cook at the same time	
		Adequate seating at the dining table for the number of residents staying in the shelter	
		Adequate storage in the kitchen for goods and supplies for the resident population	
		Provision of windows to allow for natural light, ventilation and views	
		Adequate artificial /night-lighting	
		Provision of flexible seating that can be rearranged and adapted to groups needs	
		Control over temperature	

Theme 3	<i>(Comfort)</i>	Presence of artwork, displays	
		Provision of soothing music	
		Provision of windows to allow for natural light, ventilation and views	
Play area			
		Design evaluation criteria	
Theme 1	<i>(Safety and security)</i>	Location of surveillance systems/cameras	
		Rounded edges of furniture to ensure safety	
		Sufficient and safe height of ceilings	
		Absence of ceiling fans/hooks/ loops from the ceilings	
		Location of play areas on the first floor to avoid children climbing up and down the staircase	
		connectivity to common areas/ admin for supervision	
Theme 2	<i>(control and privacy)</i>	Sufficient space allocated to support counselling/therapy with play	
		Separate play areas and equipment for varying age groups	
		Provision of separate indoor and outdoor play areas	
		Provision of windows to allow for natural light, ventilation and views	
		Adequate artificial /night-lighting	
Theme 3	<i>(Comfort)</i>	Presence of artwork, displays	
		Use of color	
		Provision of windows to allow for natural light, ventilation and views	

Appendix B

Understanding the Impact of the Built Environment of Shelter homes on the Residents

SHELTER RESIDENT SURVEY

This survey asks for your views about the physical environment and your experience at _____ (name of facility). Please circle the number that most closely represents your level of agreement with each statement below. We are interested in your honest views (either negative or positive). If you have comments about any one statement, please write down in spaces provided or on the back. The survey will take approx. 10 minutes. Thank you in advance for your time.

DESIGN AND USE OF SHELTER

1. Where do you spend most of your awake time in the shelter?

- Bedroom
- Dining area
- Living area
- Family room
- Garden
- Porch
- Other, specify _____

2. What about that space do you like?

- Ample natural light
- Views to the outside
- Presence of artwork
- Presence of color
- Soothing music
- Indoor landscaping
- Quiet
- Private
- Other _____

3. Do you feel comfortable in the shelter? Yes Somewhat comfortable No

4. Do you feel safe in the shelter? Yes Somewhat safe No

5. If you answered yes or somewhat safe, what makes the shelter home feel safe and secure? *(Select the three most important)*

If No, skip to question 7

- Surveillance cameras
- Gates control system at the entrance
- Fenced compound for anonymity
- Well-lit interiors
- Well-lit exterior site
- Shared rooms
- Presence of staff
- Presence of fellow- residents
- Other _____

6. Where do you feel the safest in the shelter? *(Select the three most important)*

- Bedroom
- Dining area
- Living area
- Family room
- Kitchen
- Office
- Porch
- Outdoor
- None
- Other _____

Why _____?

7. Where do you feel threatened or unsafe? *(Select the three most important)*

- Bedroom
- Dining area
- Living area
- Family room
- Kitchen
- Office
- Porch
- Outdoor
- Other _____

6. How safe do you feel in the following spaces?

Dining area	<input type="checkbox"/> Very	<input type="checkbox"/> Somewhat	<input type="checkbox"/> Not at all
Living area	<input type="checkbox"/> Very	<input type="checkbox"/> Somewhat	<input type="checkbox"/> Not at all
Kitchen	<input type="checkbox"/> Very	<input type="checkbox"/> Somewhat	<input type="checkbox"/> Not at all
Office	<input type="checkbox"/> Very	<input type="checkbox"/> Somewhat	<input type="checkbox"/> Not at all
Porch	<input type="checkbox"/> Very	<input type="checkbox"/> Somewhat	<input type="checkbox"/> Not at all
Outdoor	<input type="checkbox"/> Very	<input type="checkbox"/> Somewhat	<input type="checkbox"/> Not at all
Bedroom	<input type="checkbox"/> Very	<input type="checkbox"/> Somewhat	<input type="checkbox"/> Not at all
Other			

8. What aspects of the shelter home environment makes you feel unsafe?

9. Where do you go to in the shelter if you want privacy or lone time?

- Bedroom
- Dining area
- Living area
- Family room
- Porch
- Garden
- Other, specify _____

9. Do the following places offer privacy?

Dining area	<input type="checkbox"/> Very	<input type="checkbox"/> Somewhat	<input type="checkbox"/> Not at all
Living area	<input type="checkbox"/> Very	<input type="checkbox"/> Somewhat	<input type="checkbox"/> Not at all
Kitchen	<input type="checkbox"/> Very	<input type="checkbox"/> Somewhat	<input type="checkbox"/> Not at all

Office	<input type="checkbox"/> Very	<input type="checkbox"/> Somewhat	<input type="checkbox"/> Not at all
Porch	<input type="checkbox"/> Very	<input type="checkbox"/> Somewhat	<input type="checkbox"/> Not at all
Outdoor	<input type="checkbox"/> Very	<input type="checkbox"/> Somewhat	<input type="checkbox"/> Not at all
Bedroom	<input type="checkbox"/> Very	<input type="checkbox"/> Somewhat	<input type="checkbox"/> Not at all
Other			

10. Are you able to control the following things?

Where you place furniture or objects in the room	yes	no
Bringing in personal items like photos/ furnishings	yes	no
Temperature in the bedrooms	yes	no
Lighting in the bedroom	yes	no
Temperature in the common areas like living/ dining/ kitchen	yes	no
Lighting in the common areas like living/ dining/ kitchen	yes	no

11. What do you prefer?

- Shared bedroom
- private bedroom

12. Which of the following facility/amenity is most essential in a shelter? (Select *four* most important)

- Access to a garden
- Provision of Television
- Access to computers
- Access to library
- Meditation room
- A place of worship
- Exercise room/ gym
- Individual/ group counselling sessions
- Kids play area
- Other _____

13. If the shelter had to be redesigned and built, what types of features do you think are important to include to support the needs of the residents??

DEMOGRAPHIC INFORMATION

How old are you?

- 18-24
- 25-29
- 30-39
- 40-49
- 50-59
- 60-above

How long have you been staying in this shelter home?

- Less than 24 hours
- 7-10 days
- 25-30 days
- 55-60 days
- More than 60 days

What best describes your race/ethnicity?

- African-American
- Asian
- Hispanic
- White
- Other (please indicate) _____

What is your education level?

- Elementary school or below
- Junior high school
- Senior high school
- Graduate school
- Postgraduate degree

Are you accompanied by your children to the shelter?

- Yes
- No

Thank you!

Appendix C

Understanding the Impact of the Built Environment of Shelter homes on the Residents

SEMI-STRUCTURED INTERVIEW SCRIPT FOR DIRECTORS OF SHELTER HOMES AND STAFF

Thank you for agreeing to participate in this study. This study is about understanding the impact of the built environment of domestic violence shelters in the process of bringing the residents back to normalcy by maintaining their dignity. Specifically, I am interested in learning about how you perceive the built environment to have affected the residents and their recovery process.

Background information

- 1) What is the title of your position at this shelter?
- 2) Please briefly describe your activities in your position here.
- 3) How old is this shelter home?
- 4) Is it a repurposed shelter home or built to be one?

Specific questions

1. What process do the victims have to go through in order to find a spot in your shelter?
2. What is a typical day in a shelter home look like?
3. Do you have any goals that the shelter as an organization has already set up? And is there anything that you are doing right now to accomplish those goals?
4. What features/arrangements have been put in place make sure of the safety and security of the residents in the shelter?
5. What features/arrangements have been put in place make sure of the anonymity and privacy of the residents in the shelter?

6. What would be some other services or amenities that you think the shelter should provide the residents for respite and comfort?
7. What would you want to change in the shelter, if you had to redesign it?

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