

Applying Environmental Psychology in the Design of Domestic Violence Shelters

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This conceptual article illustrates the potential of leveraging environmental psychology concepts in the physical design of domestic violence (DV) emergency shelters, enabling shelters to go beyond the role of secure structures, housing an array of services, to being buildings designed to increase psychological well-being of residents. The co-authors' professional and scholarly backgrounds are in architecture and social work. Interdisciplinary collaboration in this article blends the theoretical and practical approaches of these fields, using environmental psychology to assert that the built physical environment is an overlooked element with potential to hinder or facilitate well-being of DV survivors. This article introduces environmental psychology and related design guidelines, successful in health care facilities, that might translate into shelter design and increase residents' psychological well-being, especially with design strategies that increase sense of control, social support, and reduce environmental stressors. The article provides a blueprint for interdisciplinary collaboration to enhance DV shelter experiences.

KEYWORDS *design, domestic violence, environmental psychology, therapeutic environment theory, shelters*

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On one day in September 2011, more than 23,000 victims of domestic violence (DV) were sheltered in emergency housing by 1,726 DV programs across the United States, according to a 24-hour census survey conducted by the National Network to End Domestic Violence (2012). Of these, 12,062 were children and 11,570 were adults, mostly women. Emergency shelter residents are there seeking safety from violence in their own homes and intimate partnerships, and are often struggling with lack of financial and social resources (Lyon, Lane, & Menard, 2008; Tutty, Weaver, & Rothery, 1999). In addition to physical violence, they have often been subjected to coercive control by their partners (Stark, 2007). Although DV survivors exhibit tremendous resilience and resourcefulness, several studies have found that many also suffer from poor physical health and mental health outcomes such as anxiety, depression, post-traumatic stress disorder, suicidal ideation and suicide attempts, as well as concerns such as fearfulness, difficulties concentrating and sleeping, and general emotional distress (Black et al., 2011; Campbell, 2002; Garcia-Moreno, Jansen, Ellsberg, Heise, & Watts, 2005; Sato-DiLorenzo & Sharps, 2007).

Emergency shelters meet DV survivors' immediate needs for safety, housing, and food. Beyond these acute basic needs, many emergency shelters have developed an array of services to help residents of all ages with the broad range of presenting legal, psychosocial, health, mental health, employment, and academic needs (Lyon et al., 2008; Madsen, Blitz, McCorkle, & Panzer, 2003; Roberts, Robertiello, & Bender, 2007; Tutty et al., 1999).

The built physical shelter environment in which these wide-ranging needs are met, however, has been minimally considered in the DV literature as a means to increase well-being of violence survivors. Just as illumination of power and control dynamics within DV shelters and research reporting the invisibility of some residents' needs (Davies, Lyon, & Monti-Catania, 1998; Krane & Davies, 2002) have resulted in efforts to improve practices, increased awareness of the physical environment's potential influence on resident well-being, whether positive or negative, might result in increased attention to ensuring positive rather than negative design decisions.

DV shelter design has also not received much attention in architecture and interior design literature, despite the unique combination of service needs: externally focused high security and comfort within for victims and families. A comprehensive literature search identified just one study, a qualitative dissertation, that examined DV shelter design issues (Prestwood, 2010). Design strategies that foster well-being have been researched in settings with similar needs for security and comfort such as health care facilities. Children's hospitals (Kari, Donovan, Li, & Taylor, 1999) and facilities for residents with dementia (Rosenfeld & Chapman, 2008), for example, share concerns that DV shelters have for security and comfort as design priorities. Although the sources of danger and potential distress are different, DV shelter residents and individuals hospitalized for medical treatment share

similar experiences of stress, separation from their typical environment, and social isolation. Both groups might feel fear and anxiety associated with vulnerability and unknown outcomes. Given the lack of resources available for DV shelter design, existing health care design guidelines rooted in environmental psychology and an emerging evidence base examining them could inform design of DV shelters with new strategies aimed at improving residents' psychological well-being. A hospital building boom has occurred over the last three decades, resulting in increased attention to how patients and clinicians perceive the physical environment (Ulrich, Quan, Zimring, Joseph, & Choudhary, 2004). Studies of the relationship between the built environment and patient and staff outcomes revealed their frustration with the environment, and examined correlations between design elements and staff outcomes (e.g., stress, fatigue) and patient outcomes, including safety, stress, and overall health care.

In this conceptual article, we use environmental psychology as a framework for considering emergency DV shelters and assert that the design of the built shelter environment is an element that can hinder or facilitate psychological well-being among residents. Within the framework of environmental psychology, we synthesize material from three sources to propose a set of design guidelines for DV emergency shelters that aims to facilitate resident well-being and complement shelter programmatic goals. Specifically, we discuss the limited existing knowledge base on physical shelter environments, then introduce and synthesize concepts from therapeutic environment theory and the related design guidelines introduced by Smith and Watkins (2010), and the most closely related empirical base from studies of health care environments. With security from violent abuse perpetrators as a foremost concern in shelter design, we propose design strategies providing psychological comfort to individuals in crisis that might easily be overlooked. Co-authoring this article offers grounding in the perspectives of two different fields, architecture and social work, and seeks to combine the best theory-based practice guidance from our respective disciplines. Our proposed strategies would most likely be implemented by shelter administrators, policymakers, and designers (architects and interior designers); however, they might also interest direct service practitioners as those on the frontline most directly addressing the well-being of DV survivors.

BEYOND SAFETY: HOW DO RESIDENTS EXPERIENCE THIS BUILDING?

Given the multitude of urgent, complex needs that DV emergency shelters strive to address, often with limited funding, attention to the design of the physical environment beyond security might rank as a low priority. As NiCarthy (2004) noted, "A shelter may have the disadvantages of lack

of privacy, crowded conditions, too many children, and too much stress in small quarters. But you may not have time to ask, or care, about those conditions if you're escaping from an immediately dangerous situation" (p. 153). These disadvantages, however, are not inevitable. Critical safety priorities need not contradict designing for comfort, privacy, and a sense of personal control over surroundings. The shelter building design can dovetail with other service goals aimed at improving residents' short- and long-term well-being.

Few studies exist on resident perceptions of shelter buildings. In a recent qualitative study, 5 out of 14 young adolescents accompanying their mothers in three different emergency DV shelters spontaneously described their surroundings using the word *prison* (Chanmugam, 2011). They noted security features like high perimeter fences, buttons to electronically open doors and gates, and surveillance cameras and security windows where shelter personnel observed residential hallways from behind glass. These physical aspects, combined with curfews, sign-in procedures, and strict parental supervision rules, conveyed a feeling of control exerted over residents. Adult residents in Prestwood's (2010) study also used the word *prison* to describe aspects of their shelter experience, although they were focusing on staff treatment of residents. This statement by 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, even as the DV perpetrator was free to stay home:

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. (p. 405)

Safety was the genesis of the shelter movement and remains a core concern, but today, shelter programming has expanded to address multiple, diverse needs with vast arrays of supportive services. This expanded approach begs this question: How have the physical environments of shelters also expanded beyond basic safety to support the well-being of residents? When Davies and colleagues (1998) presented the woman-defined advocacy model, they discussed the importance of advocates creating a safe place for conversations with battered women. In addition to describing physical safety and privacy, they asked, "What does it feel like to be here? . . . Even if limited resources preclude improvements, it is important to at least be aware of the effect of surroundings on women" (p. 42). Some design considerations that go beyond safety already appear in shelters, such as playgrounds and smaller pods in large shelters clustered around home-like common areas. However, specialized needs or subgroups could continue to be overlooked. For example, a recent survey of 55 emergency DV shelters in Texas found that it was more common to have reserved areas for children than for

adolescents, with nearly all providing play areas for children both inside and outdoors, whereas only half had an indoor area specifically for adolescents (Chanmugam & Hall, 2012). Because of their normative developmental need for increased autonomy, adolescents already experience major constraints in shelters because many require near-constant parental supervision.

Prestwood's (2010) qualitative study used participant observation, focus groups, and interviews to gather perspectives of adult women ($N = 33$) residing at one urban Texas emergency shelter and learn their perceptions of shelter design. Informed by a feminist perspective valuing the voice of building users in conceptualizing architectural design, the study represents an initial effort to build an empirical base examining the relationship between DV victimization and distress with building design elements as possible moderators (i.e., light, acoustics, materials, landscaping). Prestwood (2010) 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" (p. 174). Interview findings reiterated the critical need for safety from the abuser, as well as the desire for increased security for personal possessions within the shelter. Residents expressed needs for solitude that Prestwood (2010) suggested could be addressed with spaces like a library or adult-oriented outdoor space (e.g., a garden). Another key finding pertained to the different needs of women entering the shelter alone versus those accompanied by children. Those without children expressed preferences for separate residential areas for single adults. Similarly, some mothers worried that they might be asked to leave the shelter if their children were too noisy. Mothers also noted the need for more spaces for children, including areas that would facilitate separation of children by ages so adolescents and toddlers do not always need to share space, a desire that families also expressed in the Chanmugam (2011) study.

ENVIRONMENTAL PSYCHOLOGY AND THERAPEUTIC ENVIRONMENT THEORY

Environmental psychology considers the role of external factors on human behavior, viewing the relationship between humans and the environment as symbiotic. It evolved from the fields of behavioral geography and urban sociology, and is based on perspectives of physical and social science (Kopec, 2006). Environmental psychology "views human behaviors in relation to the environment as deriving from a combination of social, cultural, and biological factors" (p. 7). Many consider Egon Brunswik to be the founder of the field and the first to use the term *environmental psychology* in 1943. Some of the earliest environmental psychology studies demonstrated that "the

environment we occupy dramatically influences how we perceive the world around us, how we see ourselves in relation to the greater social hierarchy, and how the environment affects our social behaviors” (Kopec, 2006, p. 7).

In the *Whole Building Design Guide*, Smith and Watkins (2010) described therapeutic environment theory as an approach drawing from environmental psychology, psychoneuroimmunology, and neuroscience. Specifically, therapeutic environment theory considers “the psychosocial effects of environments . . . the effects of environment on the immune system . . . and how the brain perceives architecture” (Smith & Watkins, 2010). Smith and Watkins discuss the theory’s application in health care design, which owes much of its roots to Angelica Thieriot’s development of the Planetree health care model in 1978. Thieriot established a holistic approach to designing caregiving environments aimed at treating not just the patient’s illness, but simultaneous treatment of their “psychological, emotional, spiritual, and social well-being” (<http://planetree.org/>). At the time, this model advocated for a radical change in health care design. Medical care environments were considered impersonal, colorless rooms reeking of disinfectant (Kopec, 2006). The physical environment prioritized the needs of the staff, whose job was curing illness. Patient emotional and psychological realities, let alone their social well-being, were much lower on the priority list. Since the establishment of the Planetree model, research has confirmed that holistically treating the patient is a key factor in effectively treating illness (Lutgendorf et al., 2011; Ulrich et al., 2004).

The Planetree model advocated for a set of architectural and interior design guidelines conducive to patient healing and well-being. Smith (facilitator of the Therapeutic Environments Forum of the American Institute of Architects’ Academy for Health) and Watkins (2010) compiled an expanded version of these guidelines based on contemporary research and recommendations from architects and interior designers specializing in health care design. Four key design factors were identified that have been found to significantly improve patient outcomes: (a) giving patients a sense of control, (b) reducing or eliminating environmental stressors, (c) enabling social support, and (d) providing positive distracters. With the commonalities between health care patients and shelter residents described previously (stress, needs for comfort and security, separation from familiar surroundings, social isolation, fear of unknown outcomes), we propose that these four factors rooted in environmental psychology have relevance for DV emergency shelters. Restoring a sense of personal control, for example, might especially resonate with DV victims. Kopec (2006) noted that feeling a sense of control “over our world and our place in it” is critical for a person’s well-being (p. 214). Feeling a lack of control has been associated with decreased ability to concentrate and increased reports of physical symptoms (Martin, 2002). DV survivors have experienced the opposite of a sense of personal control, with an intimate partner exerting abusive power and control over them, further

compounded by the stressors of leaving home for an unknown environment for an unknown amount of time with unknown future plans.

The next section proposes promising design strategies to create DV emergency shelters with psychologically restorative physical environments as informed by environmental psychology. Specifically, the strategies are guided by the four factors identified by Smith and Watkins (2010), combined with our synthesis of the previously discussed concepts from therapeutic environment theory, the body of research on the mental and physical health needs of DV survivors, the emerging body of knowledge on their perceptions of the physical shelter environment, and the most closely related empirical basis on the relationship between built environments and user well-being, studies of health care environments.

A basic understanding of how buildings are designed by architects and interior designers is necessary for understanding the proposed strategies. As licensed professionals, architects and interior designers are trained to follow a systematic and coordinated design process. The process involves analyzing a design problem and integrating knowledge to solve it while accommodating the client's needs and resources. While considering form, function, economy, and time, the design process can be broken down into four basic steps: goal identification, collection and analysis of facts, assessment of needs of all users of a design space, and applied testing of the design concepts. The design concepts eventually develop into a set of design guidelines for a project. A designer cannot complete these steps independently from a project's stakeholders. Interviews with occupants or representative occupants are critical during the needs assessment stage. The more integrated the design process and the greater the involvement of all stakeholders, the greater the potential for design success. Those who pursue improvement of DV shelter designs are thus strongly encouraged to involve current or former residents and staff in their needs assessment, including diverse subgroups.

PROMISING DESIGN STRATEGIES FOR DOMESTIC VIOLENCE EMERGENCY SHELTERS

Sense of Control

Development of design guidelines specifically aimed at fostering a greater sense of control by promoting autonomy typically begin with committing to universal design principles in all aspects of the design. Universal design features are those that aspire to be accessible and usable by all people regardless of ability or age. The Center for Universal Design (2011) defines universal design as "(t)he design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design."

Building layout and wayfinding are also fundamental to autonomy-supportive design. Artwork and signage are typical wayfinding design elements, yet also important are daylight, color, texture, and pattern toward giving visual cues to orient and guide residents to their destinations. Interior landmarks in the form of design features with special positive meaning to violence survivors could be incorporated. Giving different floors of a building different color palettes and indicating circulation routes by floor finish or color pattern are features commonly used in interior design as wayfinding strategies. Building layouts that are easily understood, creating a logical sequence from public to more and more private areas with reasonable adjacencies, prioritize the emotional needs of shelter residents. Other personal empowerment design strategies include the following:

- Giving control of lighting; residents and staff can both benefit from personal dimming controls and flexible window treatments that both blackout and can be fully open.
- Enabling control over equipment in residents' immediate environment: room temperature, radio, TV, reading light, and night light.
- Providing options for single residents without accompanying children to stay in separate areas away from the sounds and sights of children's activities.
- Allowing residents individual control over food choices and preparation. For example, as Prestwood (2010) suggested, rooms for residents with accompanying children could include small refrigerators allowing 24-hour access for infant and snack needs in a way that limits disturbing other residents.
- Providing safe storage locations for resident belongings, with staff retaining master keys for lockable areas in case emergency access is needed.

Reducing or Eliminating Environmental Stressors

Strategies just discussed that promote autonomy and a sense of control for residents also support the second key design factor, reducing or eliminating environmental stressors. However, the primary way to address environmental stressors in DV shelters is by creating opportunities for place attachment. *Place attachment* is defined as the "bonding of people to place" (Low & Altman, 1992) and has been linked to self-esteem and lower stress levels (Eshelman & Evans, 2002). In a study of 92 new retirement community residents, Eshelman and Evans (2002) found that place attachment and self-esteem are influenced by a space's functional aspects and meaningful aspects: "Once functional needs are met, both place attachment and self-esteem are elevated by interior features that have personal meaning. These findings expand the concept of hominess widely used in the design of residential caregiving settings" (p. 1). Creating a home-like atmosphere

is a typical way designers maximize meaning variables and facilitate place attachment. Specific design strategies that could be used in DV shelter design include the following:

- Designing buildings resembling single-family homes with exterior features that suggest human presence (i.e., benches, swings, play equipment).
- Softening overall room appearances by using fabric window treatments and comfortable furniture.
- Using noninstitutional color schemes with residential-style lighting.
- Integrating operational and staff equipment into residential-style furnishings for convenience, but hidden and lockable so that staff do not have to leave to fetch basic things.
- Offering varied human-scaled settings and room sizes that are distinct in character and orientation. Room layouts should not appear large and institutional but rather broken up into smaller elements. Using lighting to define spaces within a room can be effective in accomplishing this.
- Avoiding hard, shiny finishes (i.e., flooring) that cause glare and appear institutional.
- Making sure sill heights are such that children can view out (like a typical children's room) and windows are lockable but operable where security is not an issue.
- Avoiding long dead-end corridors that end with a locked door and instead, provide a daylit space with a place to sit.
- Making visually available any items that express comfort (i.e., tissue boxes).

Differing personal styles and tastes make enhancing an environment with aesthetically meaningful details challenging; however, to avoid negative associations or feelings, decorative themes or representational art, which have the potential to become environmental stressors, should be avoided. Instead, nature has been proven to lower stress levels and give relief to feelings of confinement (Kopec, 2006). Thus, it is generally recommended that designers create opportunities for people to connect to nature in as many ways possible with daylight, views to the outside, outdoor play or garden areas, and pictures of nature.

Allowing and enabling individual personalization is essential in initiating place attachment. Personalization is variable and might sometimes reflect sociocultural values or functional needs. Areas where personalization is encouraged should be clear, and could include the following:

- Well-lit niches, pin-up surfaces, deep windowsills, window seats, and plate shelving that are readily available for anything creative to share (i.e., children's art, special personal items).

- Providing customizable, multifunctional furniture easily rearranged to suit a person's or family's needs.

Enabling Social Support

Enabling social support, the third factor identified by Smith and Watkins (2010), requires inclusion of areas dedicated to social gatherings. Small, intimate group spaces that can be occupied by no more than 10 to 12 people that have a distinctive focal point (i.e., fireplace, a large picture window) and special seating can be effective in creating positive social interaction (Brawley, 2006; Perkins, Hogund, King, & Cohen, 2004). Shelter residents of all ages might appreciate separate areas specifically geared toward the interests of different age groups. Social focal points in an indoor dedicated area for children and adolescents might include play equipment such as ping pong or air hockey tables.

Privacy is also relevant to social support. Ideally, individuals will have autonomy over how much they interact socially with others at any given time, and the built environment influences the options available for controlling the level of privacy versus social engagement. Privacy-sensitive design features could include the following:

- Organizing rooms, spaces, or areas with an appropriate intimacy gradient, following a logical sequence from public to more and more private areas.
- Avoiding inappropriate adjacencies such as therapy rooms opening directly off common areas, or children's play areas in auditory range of single (childless) resident areas.
- Providing auditory privacy in general with wall construction and finishes, so that noise from one activity is not distracting for those in adjacent areas.
- Designing room layouts that allow options as to the level residents wish to engage socially.
- Making the visual connection between areas controllable as much as possible.
- Dedicating hallways for residential versus public circulation, or hallways leading to "safe rooms."

Providing Positive Distracters

Positive distracters are commonly used in care environments to divert residents' attention from negative, anxiety-generating thought patterns to more positive or therapeutic thought patterns. Health care facility research indicates that stress can be reduced by certain types of music, nature, and companion animals (Ulrich, 1991). Positive distracters applicable to DV shelters can be as simple as radios and televisions, and could also include

libraries or resource rooms with computer terminals so residents can connect socially with others outside the shelter. Rules for allowing children into these spaces must be clearly defined and enforced, however, for them to function properly (Prestwood, 2010). Children's areas with play equipment, on the other hand, serve multiple goals by enabling social support and also being a positive distracter. Meeting adolescent needs poses a greater challenge. "The ages of 10 to 18 . . . are more concerned with their peers' expectations. They gravitate toward special objects that represent their notions of self and their aspirations for the future and prefer places where they can feel safe and reduce stress levels" (Kopec, 2006, p. 161). Environments reflective of the specific interests of adolescents are recommended.

Positive distracters could be especially beneficial in areas with features that could be perceived as "prison-like," such as a security desk where residents must wait under camera surveillance before being admitted to another area. Placing an aquarium or playing calming music at an interior security checkpoint, for example, might divert attention from the sense of scrutiny DV survivors could experience during waits in those spaces, and provide the previously discussed benefits of integrating natural elements into the shelter interior.

DISCUSSION

Emergency shelter design is not a building type that has been, as of yet, heavily researched. As our understanding of the needs of DV survivors and shelter residents increases, so should our level of appropriate design response. An interdisciplinary design approach that brings together practitioners on all sides of the issue is critical for advancing our knowledge base and real-world application of designs that augment the goals of other shelter services by contributing to the well-being of shelter residents. A paradigm shift is needed that values the built physical environment as a meaningful element in empowerment of DV survivors.

From the perspective of those involved with DV shelter administration, new understanding of this potential will be beneficial. Administrators will benefit from greater awareness of the role of architects and interior designers as potential allies in mitigating the effects of DV, and from increased understanding that numerous strategies can enhance the physical environment. Direct service practitioners and shelter advocates might be able to easily implement some of the smaller scale recommendations to increase restorative qualities of the environment, such as using positive distracters.

Advocate roles are broad, attempting to see the whole person, with all her strengths, vulnerabilities, and capacities—whether tapped or as yet untapped. Likewise, in their efforts to end DV, advocates consider the broad social factors that are its root. Between microlevel interventions with

individuals and macrolevel efforts to improve policies and laws, a mezzo level intervention could include consideration of the physical spaces in which individuals and families interact with advocates and one another. Just as the advocate role is broad, perhaps the role of the physical shelter can be broadened. Beyond meeting goals of safety and room capacity, shelter design can be an adjunct to services by helping to restore control, privacy, and emotional comfort. Although many shelter programs strive to create positive physical spaces, others might not have considered the potential benefits of attention to design.

From architects' and designers' perspectives, the growing "social architecture" movement, promoted by such organizations as Architecture for Humanity, is strengthening efforts aimed at improving public good through better designed buildings. Today, national accrediting agencies of higher level architectural and interior design educational programs, such as the National Architectural Accrediting Board (NAAB) and the Council for Interior Design Accreditation (CIDA), are demanding more emphasis on socially relevant curricula. Recent graduates are increasingly expressing interest in projects that are more community-oriented and need-driven than projects guided solely by large budgets or aesthetics.

CONCLUSION

A shelter, like any building, is a physical environment that can play either a supportive or unsupportive role as the backdrop to the human drama it contains: "No environment is neutral" (Smith & Watkins, 2010). Knowing that design can play a role in support of DV emergency shelter goals beyond safety, we should ask this question: Is it inevitable that secure institutional living feels crowded, stressful, public, overly controlling and—at worst—like a prison? This article asserts otherwise, supported by theoretical, historical, and empirical information. Innovations in other types of caregiving institutions, such as health care facilities, have yielded beneficial design guidelines. Such guidelines for emergency shelters would help to identify testable solutions and result in a shared knowledge for the benefit of all stakeholders. We recommend partnerships and use of an integrated design process among architects, interior designers, advocates, shelter residents, and other stakeholders to create spaces offering emotional as well as physical safety.

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