

Factors Contributing to a Safe, Supportive and Desirable Housing Environment for Children

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Abstract

The new "Fair Housing" law promotes accessible, safe, supportive and desirable housing for all groups. One group of people with special needs that requires safe, supportive home environments is children. The purpose of this study is to stimulate inquiry and interdisciplinary dialogue by examining theory and findings from developmental and environmental psychology in relationship to the design of housing for children. Both direct and symbolic forms of stimulation are considered, including physical stimulation and social stimulation from social agents, such as family and friends. In addition, elements of layout and design that facilitate development of common functions, privacy, personal identity, security, and trust in the home environment are examined. Furthermore, participation of children with adults in planning physical settings is explored as an effort toward improved environment quality.

Introduction

The important role of environmental influences on child behavior and development has been consistently stressed in child psychology over the past several decades (Hunt, 1961; Fiske and Maddi, 1961). In recent years, environmental designers have begun to display a concern for the child as a user of the designed environment (Wohlwill, 1980; Olds, 1987). This has broadened the concept of relationships between environmental and behavioral variables as they affect child development.

Discussion

Home as a Direct and Symbolic Impact on Children

Despite the increase in alternative environments for infants and children, the home remains the principal setting in which children's early social and cognitive development takes place. Elements of the physical setting may directly influence behavior by facilitating certain activities and obstructing others (Weinstein and David, 1987). The social and physical environment provided for young children in the home has a significant impact on their later social and cognitive development (Parke, 1978).

Social stimulation can take a variety of forms: visual, auditory, tactile, kinesthetic, and maternal responsiveness. However, it should be emphasized that the child lives in a complex social environment consisting of social agents--mothers, fathers, siblings, peers, and relatives. All of these agents play an important stimulatory role in child development.

There are also individual and cultural influences on perception which affect the use and interpretation of environmental settings. Physical settings can communicate symbolic messages about the intentions and values of the adults who control the setting (Proshansky and Wolfe, 1974). The physical environment serves as a modifier of the amount and type of social stimulation in the home.

Perceptions of the environment have been attributed to variations among perceiv-

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ers. Gifford (1987) showed that no single influence determines what an observer perceives. Any given perception is determined by many influences, each shaping the overall perception. Influences that affect environmental perception can include

1. personal impairment (e.g., sight or hearing),
2. gender differences (Nasar, Valencia, Omar, Chueh and Hwang, 1985; Rheingold and Cook, 1975),
3. familiarity with the setting (Nasar et al., 1985), and
4. urban versus rural familiarity (Coren, Porac and Ward, 1984).

Therefore, both direct and symbolic forms of stimulation will be considered, including social agents and physical stimulation provided by toys, books, and other environmental attributes such as carpet texture or space boundaries.

Child Development as a Design Consideration for Home Environments

Children are highly sensitive to their environment's appearance and organization; they think in terms of physical landmarks and bodily cues. Acredolo and Evans (1980) have shown that children use environmental cues for navigating (voices, boundaries, shapes, and mass) and for determining what places are safe. Piaget (1963) calls this first period of intellectual development the sensorimotor stage. In this stage, a child deals with experience, primarily through its senses and movement, which stimulate its awareness, feelings, and responses. Therefore, the environment should be designed to stimulate the child's sensory sensibilities, as well as to support function (Olds, 1987). For example, inclusion of a musical light fixture could provide auditory stimulation for the infant as well as illumination for the caregiver.

An ideal environment affords children frequent opportunities to learn by moving through the setting, while stimulating a full range of movements for body control. Held and Hein (1963) suggest that adequate development depends upon self-induced experiences that give learners feedback about the consequences of their actions, both upon materials and on their own movements through the space. This would dictate an area where children can move freely without danger from stairs and sharp corners, and experience a variety of textures (carpet, tile) and objects (pillows, toys). An ideal home environment varies stimulation for all of the senses. Colors, shapes, movement, and light attract the eye; music and voices provide auditory stimulation. Aromas from bread baking or fresh flowers arouse the sense of smell. Overstimulation from the physical environment should not be a problem since children select for their attention, and only care for, the most important stimuli. Thus children ignore other stimuli that might seem important to outsiders.

Touch is the most critical sense for children. This is particularly true of children with special needs, because the skin is the largest organ of the body (Montagu, 1971). Thus, textural items such as pillows, cozy animals, and malleable play materials may be developmentally critical to children.

The senses are further enhanced by moderate physical variations in ceiling heights, scale, texture, temperature, and light, which is a major source of stimulation. It enables the child to experience the passage of time and to enjoy a variety of spatial changes under different conditions of illumination. Research (Hughes, 1983; Spivak and Tamer, 1983) has shown that full spectrum lamps, which approximate the range of wavelengths provided by sunshine, should replace standard fluorescent and tungsten lamps. Interior lighting should be balanced to complement natural light by using indirect and direct lighting systems.

In addition to facilitating the development of movement and sensory sensibilities, elements of the home environment may influence personal identity and competence. Children examine the physical and social environment to understand their surroundings, to satisfy their needs, and to behave appropriately. This contributes to a place-identity in which competence of the physical world becomes an aspect of self-identity (Proshan-

sky, Fabian and Kaminoff, 1983). The child's identification of meaningful spaces and places and how to use them leads to mastery and confidence, which communicates successful development to the child. Areas that have been scaled down to children's size, such as storage units in their bedrooms or play areas, encourage them to interact with the environment and create an opportunity for mastery.

The first place-identity occurs in the home. In the home setting, the child learns to recognize spaces and places and how to evaluate, create, and manipulate the physical world. Spatial autonomy is very important in the child's development of place- and self-identity. Wolfe (1978) observes that privacy, as achieved through some degree of control over the physical environment, is essential to healthy psychological development. Wolfe also notes that a child has a few opportunities for limiting other people's control or access to his personal things and spaces. Personal space, such as a bedroom, allows a child to achieve control and autonomy over particular spaces, thus enhancing self-identity (Proshansky and Wolfe, 1974).

A child's desire for competence is one of the basic motivators of human behavior development. A primary function of the designed home environment is to allow children to develop control and competence over their physical setting. The home should be convenient for young children so that they can conduct their personal functions and needs without assistance. Johnson (1980) proposes guidelines on providing children with access to the household environment by scaling down furniture and by placing fixtures, shelves, door knobs, and light switches at an appropriate height. A more compactly built environment can also make it easier for children to understand the spatial environment, thus facilitating a feeling of competence. Space that is comprehensible to children allows them to plan and carry out goal-directed activities. Goldbeck (1985) notes that young children rely extensively on physical cues in the environment for remembering location and spatial relationships.

A major child development concern is fostering a child's sense of security and trust. A predictable, comfortable physical environment can contribute to these feelings. Comforting surroundings encourage children to explore their environment (Little and Ryan, 1978), which is crucial to cognitive, emotional, and motor development. Jones and Prescott (1978) suggest that elements that are soft or responsive to touch (beanbag chairs, furry animals, clay, carpeting, and water) are very important in conveying security. Osmon (1971) emphasizes the importance of water for enhancing tactile pleasure and creating a soothing, nonthreatening experience. However, dramatic fluctuations of stimulation (Olds, 1987) may frighten and disorient children. Moderate variations in floor, ceiling, spaces, and types of lighting and textures will enhance the feeling of a comfortable, safe setting.

The home setting must be designed to provide both social contact and privacy. An overall layout that provides for solitude, small groups, and one-to-one interactions between family members encourages opportunities for both social contact and privacy (Olds, 1987). Children require private interior settings, as well as exterior areas of the home that allow them to express and release emotional anxieties. Small window seats, cubbyholes, personal furniture, and semi-enclosed spaces are important to the development of self-concept and personal identity. Olds (1987) and Shaw (1982) recommend open spaces for group activities with private spaces around the periphery. Proshansky, Ittelson and Rivlin (1970) find that social activity and interaction are more frequent in small bedrooms than large ones.

Objects in the environment can also influence social contact. For example, Quilitch and Risley (1973) contend that toys such as pickup sticks facilitate cooperative activity, whereas clay and puzzles promote isolated play. Color schemes can be used to promote active or passive use of interior space: Warm colors are conducive to increased activity; cool colors are calming (Birren, 1961). Therefore, designers should employ warm tones in play areas and cool ones in sleep areas to promote desired responses.

Designing home environments to encourage social interaction supports the nat-

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ural development progression toward group play and enhances opportunities for role-taking experiences. Weinstein (1982) has outlined three basic design guidelines to consider: partitioning space, providing materials that support interaction, and minimizing conflict by offering children a sufficient number of activities. Studies by Field (1980) and by Neil and Denham (1982) suggest that small, bounded spaces increase cooperative play and enhance feelings of closeness, intimacy, and safety. Hendrickson, Strain, Tremblay and Shores (1981) have found that interactive behavior occurs most frequently in open areas that encourage group play such as housekeeping or dramatic role-playing. Research also supports the natural developmental progression between children's interactions and the amount of material available.

Children's Participation in Planning Their Physical Settings

In studying the home environment, it is critical to consider how children and adults plan, perceive, respond to, and use the setting. Allowing children to participate in planning their environment helps them to realize their potential and assists them in building group cohesion (Hart, 1978). The physical environment offers opportunities for children to see the impact of their efforts in a direct and lasting manner. Children's involvement in planning their environment can lead to a better quality environment and may have implications for its maintenance. Benjamin (1981) relates his experience to British playgrounds. He has found that there is no graffiti and no vandalism when work has been done by children.

Participation can result in a better quality environment because the ideas of the users have been recognized. It is important that all of the persons who are to be affected by a home have an opportunity to participate, although not everyone may desire involvement in all stages. Even relatively young children are capable of expressing preferences and contributing ideas regarding interior design. Children can contribute creative ideas regarding the design and use of color and play space (Benjamin, 1981). At the basic level, this can involve personalization of a child's bedroom or play space.

Children benefit socially and psychologically from participation with parents in the creation of spaces. It is necessary to examine components of the design process to understand the psychological and social benefits that derive from active planning participation (Rubin, Fein and Vandenberg, 1983). The establishment of spatial order in the world, the making of place from space, is related to a child's sense of place-identity (Duncan, 1981). The discovery of physical processes and principles of spatial relationship is also important in enabling children to better understand places and physical events. Participation in the design process also offers children the opportunity to deal with emotional conflict by establishing their own place in the environment and control over it (Klein, 1975).

Environmental competence is an important outcome of participation in planning and designing children's spaces. Hart (1978) define environmental competence as "the knowledge, skill, and confidence to use the environment to carry out one's own goals and to enrich one's experience" (218). Children who do not feel competent in their environment are less likely to take part in: changing or managing the environment when they become adults (Hart, 1978).

In addition to recognizing the child's needs in creating a home setting, it is essential to recognize and consider the needs of parents and other adults. Children must learn that physical settings are shared and continually change because of the presence of other people. Thus, tension can be created between the normative and the personal uses of objects, spaces, and people (Proshansky, Fabian and Kaminoff, 1983). Place-identity requires that children learn to recognize objects, places, and spaces and to share them with other people. Furthermore, children learn that particular behaviors and responses are part of space use. These acquired skills become more complex until children eventually understand that the household is part of a larger entity.

Wolfe (1978) observes that a child has few opportunities for control of space and ob-

jects due to the regulations adults impose upon children. Therefore, Johnson (1987) states that homes must accommodate parents' needs for quiet and neatness and children's needs for noisy, messy activities. Adequately designed play spaces in the family areas should be available so that children do not have to be relegated to the basement or outdoors. For example, provision of resilient flooring in one area can alleviate fears of ruined carpet (Olds, 1987). A supportive home environment can be created for all of its users by compromising adult and children's needs during the design process.

Conclusion

There is an excellent body of empirically based information regarding the influence of the home environment on children. These findings underline the need to acquaint adults with the empirical research on design-behavior relationships and to encourage thinking about ways to create settings which achieve educational and developmental goals. Olds (1987) expressed this idea very succinctly:

The motivation to interact with the environment exists in all children as an intrinsic property of life, but the quality of the interactions is dependent upon the possibilities for engagement that the environment provides. Hence, in all its manifestations, the environment is the curriculum and the physical parameters of classrooms, as much as books, toys, and work sheets, must be manipulated by teachers as essential aspects of the educational process (117).

Individuals who work with people in the creation and management of environments can contribute a great deal through demonstration and research to improve our understanding of ways to involve children in the process. The evidence presented here suggests the need for more interdisciplinary collaboration between designers, child development specialists, and environmentally oriented developmental psychologists, all of whom can benefit from exposure to the knowledge and methods of other disciplines. This involvement will prove to be beneficial to children and society.

Broadening this conceptual view of the effects of the home environment on children requires rethinking the design process. Children's environments are the result of various codes and standards such as life-safety codes and handicapped accessibility standards. Archea and Connell (1986) note that codes and standards often have an impact on the shape, number, and size of environmental features but are often based on precedent. For example, the requirement that window area be 10 percent of floor area is based on erroneous 19th-century ideas that diseases are carried by airborne particles. Seldom have the standards and codes been based upon an analysis of user needs. Furthermore, rarely have the environments that are used by children (but are not children's spaces) addressed the physical needs of children.

The theoretically based and empirically based recommendations in this study can have a dramatic impact on design for children by addressing these codes and standards. Unfortunately, research on children's environments is diverse and has little impact on architects, teachers, and parents who design and maintain settings for children (Zimring and Barnes, 1987). To increase the dissemination of research on the design of children's places, information must be published in accessible outlets and communicated to those who manage children's environments. Therefore, this study is intended to be a guideline and resource to stimulate further research and interdisciplinary dialogue among people who create children's environments.

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