

Environmental Perception and Interior Design

SAMUEL D. GOSLING, ROBERT GIFFORD,
AND LINDSAY MCCUNN

We shape our buildings, thereafter they shape us.

—*Winston Churchill (1943)*

Winston's Churchill's well-known wartime remark succinctly captures the fact that the connection between people and the places in which they dwell is a two-way relationship. It is a point that is surely understood, at least implicitly, by interiors theorists, researchers, and practitioners. But what does the field of psychology have to say about the two halves of this reciprocal bond? Here we review the main theories and findings from the field of environmental psychology that can inform our understanding of the links between people and places.

PART I: HOW PEOPLE SELECT AND AFFECT INTERIOR ENVIRONMENTS

Interactionist theorists in psychology have long recognized that individuals select and create their social environments (e.g., friendships, social activities) to match and reinforce their dispositions, preferences, attitudes, and self-views.¹ David Buss used the terms “selection,” “evocation,” and “manipulation”² to delineate three broad modes of interacting with one's environment. The modes were originally developed in the context of social interactions, but they can easily be applied to physical environments to understand the ways in which humans affect interiors. People select existing spaces with interior features that they believe will allow them to express their personalities and preferences and will allow them to engage in their desired activities: an extravert may purchase a house with a large kitchen to facilitate entertaining, where the introvert prefers

the property with a library. People evoke environmental features by engaging in activities that leave material traces in their wake—examples include a messy desk or a diverse collection of books on the shelves. And, perhaps of greatest relevance to interiors scholars, individuals manipulate their existing spaces, sometimes with the assistance of a professional; thus, a person may choose décor that reflects a cultural identity, use products to affect the ambient conditions, or alter the arrangement of furniture to facilitate desired activities.

The above three modes of interaction can achieve various psychological goals. But what are psychological motivations driving individuals to select, evoke, and manipulate their environments?

Psychological Motivations for Affecting Spaces

Broadly, people alter their spaces for three reasons:³ they want to broadcast information about themselves, they want to affect how they think and feel, and they inadvertently affect their spaces in the course of their everyday behaviors.

Identity Claims

One of the ways in which people personalize their interiors is by adorning them with “identity claims”—deliberate symbolic statements about how they would like to be regarded.⁴ Posters, awards, photos, trinkets, and other mementos are often displayed in the service of making such statements. One’s intended audience must understand the intended message, so identity claims tend to rely on objects with shared meanings. The specific content of identity claims may vary according to the identity of the anticipated “other,” with different audiences evoking different self-presentational motives—items that impress your friends may not have the same effect on your coworkers.

Thought and Feeling Regulators

Interior environments are the contexts for a wide range of activities, ranging from relaxing and reminiscing to working and playing. The effectiveness with which these activities can be accomplished may be affected by the physical and ambient qualities of the space. As we shall see in Part II of this chapter, the features of an interior environment can have an impact on the individuals who occupy those spaces. It can be hard to relax with a lot of noise around, and it is difficult to concentrate when surrounded by distractions. The environmental features conducive to one activity (e.g., socializing) are not always the same as the environments conducive to another (e.g., relaxing). Thus, many features of interior environments owe their presence to their ability to affect the feelings and thoughts of the occupant. Elements used to regulate emotions and thoughts could include photos of family, keepsakes, the color of the walls, and the music in the stereo.

Behavioral Residue

Many behaviors performed in interior environments leave some kind of discernible residue in their wake. For example, the act of tidying up one's office could result in an organized filing system. The term *behavioral residue* refers to the physical traces left in the environment by behavioral acts. Sometimes it is the lack of an act that leaves a residue. For example, the dishes in the sink are the residue of the fact that you did not clean up after eating.

There are four important features of behavioral residue. First, behavioral residue accumulates over time so it tends to reflect repeated behaviors rather than one-off acts. Second, in addition to the residue of behaviors already performed, interior environments may also contain clues to anticipated behaviors; for example, a new deck of cards and a set of poker chips suggest an occupant is planning a game of poker. Third, in addition to containing remnants of activities performed within a space, interior environments also contain residue of behaviors performed beyond the immediate surroundings. Fourth, different behaviors can result in similar environmental manifestations—a messy room could indicate sloth, or it could indicate a person who is overwhelmed with other responsibilities.

Note that three motivations—identity claims, thought and feeling regulators, and behavioral residue—are not mutually exclusive. For example, the snowboard in the corner of a room may indeed reflect exterior behaviors, but the occupant's decision to display the snowboard (rather than stow it in a closet) may also reflect a desire to make identity claims or could serve as a reminder of happy times.

Measuring the Features of Interior Environments

A small number of empirical studies have examined the specific ways in which individual differences are expressed in interior environments.⁵ Before summarizing the findings to emerge from these studies, we discuss the fundamental methodological challenge faced by researchers in this domain: how to systematically record the features of spaces.

The problem of documenting space is not a simple one. Researchers must identify a method that is amenable to quantitative analyses, that permits comparisons across spaces, is sufficiently flexible to apply to a variety of spaces, and sufficiently comprehensive to capture all the relevant features that might be found in a space. Free-response descriptions of interiors are flexible, but they are hard to analyze quantitatively and are not easily compared across spaces.

Checklists of specific items are easy to quantify and facilitate comparisons across spaces but they are hard to generate and must contain hundreds or thousands of items if they are to be comprehensive; for example, Laumann and House's⁶ fifty-three-item Living Room Checklist included specific-content items such as "large potted plants," "French furniture," and "sunburst clock" but could not account for the vast majority of items that one might encounter in a living room. Moreover, checklists do not capture broader configural aspects of a space.⁷

One compromise between the flexibility of free responses and the quantification potential of checklists is the use of ratings scales. For example, Kasmar's Environment Description Scale⁸ used raters to document the broad global features of interior spaces in terms of ratings on sixty-six adjective pairs (e.g., appealing vs. unappealing; expensive vs. cheap). These methods are flexible, quantifiable, and facilitate comparisons across spaces, but they omit any record of specific environmental features, and they are vulnerable to the idiosyncratic interpretations of terms made by different raters. However, research has shown that such ratings typically reach high standards of reliability.⁹

To address the individual weaknesses of the itemization and rating approaches, the Personal Living Space Cue Inventory (PLSCI)¹⁰ was designed to include both approaches. The PLSCI consists of over 700 individual items (e.g., rubber bands, fashion magazines, laundry basket) and 42 broader terms that can be rated subjectively (e.g., cheerful vs. gloomy; clean vs. dirty). The PLSCI displays adequate psychometric properties, and its viability in research settings has been demonstrated.¹¹

The Expression of Psychological Attributes in Interior Environments

Most past research on manifestations of individual differences in physical environments has focused on bedrooms/dorm rooms and offices. For example, one study examined the ways in which adolescents decorated their bedrooms, focusing on the differences between the items found in boys' and girls' rooms.¹² Another study documented the features and artifacts found in living spaces and offices occupied by liberals and conservatives;¹³ the study showed, for example, that conservative occupants tended to display more sports-related décor and liberals tended to have a greater variety of books in their spaces.

Lindsay T. Graham, Carson J. Sandy, and Samuel D. Gosling¹⁴ reviewed the research documenting connections between individuals and features of physical spaces, such as bedrooms or offices. The review indicated that many different individual differences can be expressed in physical spaces. Several studies framed their analyses in terms of the widely used Big-Five model of personality.¹⁵ The evidence suggests that all five dimensions can be manifested in living spaces, but openness and conscientiousness appear to leave the biggest imprint.¹⁶ High-openness individuals tend to occupy spaces that are classified as "distinctive" and contain a high diversity of content items (e.g., books, magazines) and indicators of interest in various places and cultures (e.g., maps, souvenirs). The spaces occupied by conscientious occupants tend to be clean, organized, neat, and uncluttered. Openness and conscientiousness were the traits most clearly manifested in physical spaces, but others did get expressed. For example, extroverts engaged in more personalization and had offices that were classified as more inviting than offices occupied by introverts. One way the invitingness can be expressed is in terms of a relatively open chair and desk arrangement.¹⁷

In addition to the big five, a varied assortment of other traits have been examined, including status, need for interpersonal relationships, and locus of control. In one study, the likelihood of dropping out of college was predicted from the degree of

personalization within a room;¹⁸ specifically, individuals who personalized their rooms had lower dropout rates than did individuals who personalized them less. When the dropouts did personalize their spaces, their décor tended to be related to family and the loved ones. A similar study conducted some years later at the same university showed the opposite effect—dropouts used decoration more than nondropouts.¹⁹ The discrepancies in findings were attributed to the small sample size and composition (only males were assessed) in the earlier William Hansen and Irwin Altman study. However, both studies found that dropouts were inclined to decorate their spaces with photos of family and friends. One interpretation of these findings is that the dorm-room décor consisted of identity claims, expressing commitment to the new college life in the nondropouts (who decorated with college-related emblems) and thought and feeling regulators designed to counter feelings of loneliness and isolation and reluctance to commit to college life in the dropouts (who decorated with reminders of home).

One study of workspaces²⁰ examined the connections between how a space was personalized and status. Occupants recorded the items in their workspace and gave details regarding their job, such as position and tenure within the company and how many hours per week they worked. Status in the organization was a strong predictor of the amount of personalization in an office space. But these individual difference variables were only part of the story.²¹ Testifying to the complexity of the connections between occupants and their spaces, the research also revealed that other factors such as the type of workspace (e.g., a private, enclosed space vs. an open cubical) and the company's personalization policies influenced the types and amount of personalization of the workspaces.

Several studies identified substantial differences in the ways in which males and females personalized their bedrooms and office spaces. In general, women tend to decorate their spaces more than men do. In terms of specific items, compared with men, women tend to have more stuffed animals, candles, lotions, trinkets, and photos of close others such as family and friends. Men tend to have more sports equipment, CDs, stereos, and achievement-related items. These trends have been identified in several populations, including young children,²² adolescents,²³ and college-age adults.²⁴

In short, research over the past few decades has documented the ways in which individuals affect their interior spaces. But how are these spaces perceived and how do features of these spaces affect the occupants? We address these questions next.

PART II: ENVIRONMENTAL PERCEPTION AND HOW INTERIOR ENVIRONMENTS AFFECT PEOPLE

Social scientists and designers often work together to understand how individuals interact with their environments.²⁵ Doing so ensures that spaces in which we spend large amounts of time are functional and enjoyable. Research by environmental psychologists illuminates how particular features of indoor settings influence the attitudes and behaviors of building occupants and visitors.

This section of the chapter first introduces three important ideas about environmental perception: probabilistic functionalism, affordances, and collative properties. Then

it offers examples of environmental factors that affect satisfaction, health, and performance in residential and workplace buildings. These approaches to environmental perception and research findings can be applied to spaces in the real world, where comfort and productivity are important design outcomes.

Environmental Perception

As an interior designer or as a client, how might one look at a room? The simple answer might be, in terms of possible colors, décor, and layout. However, environmental psychologists suggest three other ways that might be fruitful: probabilistic functionalism, affordances, and collative properties.

Probabilistic Functionalism

This influential approach is based on the work of Egon Brunswik,²⁶ who proposed that the way people perceive and interpret settings are best described by what he called the “lens model” (Fig. 49). In this model, information about a setting originally manifests itself as objective, distal cues (e.g., the actual height of a ceiling, the actual dimensions of the room), which are selectively perceived through proximal cues (e.g., that the ceiling is “low” and that the room is “boxy”), and lead to the perceiver’s final evaluative conclusion, such as, “I can’t work in this space.” According to Brunswik, perceivers select a subset of the many available cues in a space and reach their conclusions based on that idiosyncratic selection. Different perceivers will select and weight different cues. The successful perceiver selects the most important cues in order to function effectively in a setting. This is why Brunswik’s theory is functionalist in nature.

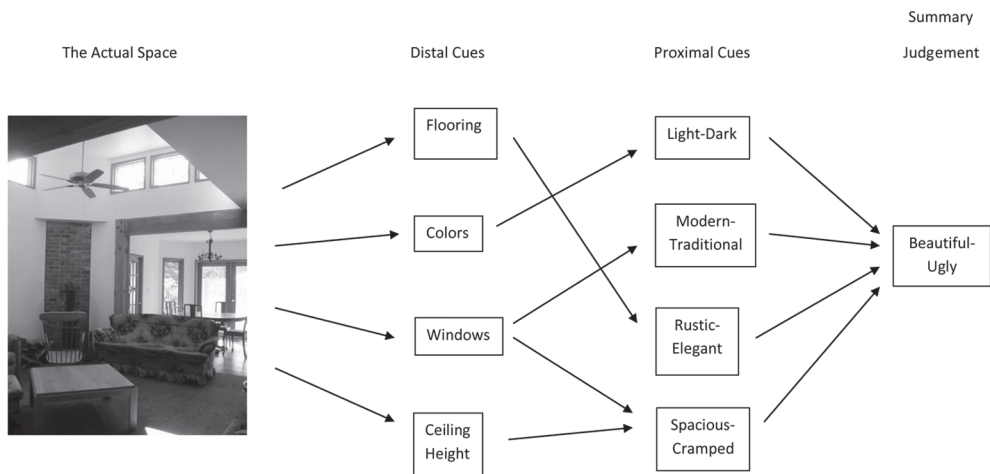


FIGURE 49 A lens model for an interior. The distal and proximal cues are examples that represent many other possibilities, and a variety of summary judgments might be considered as well. Courtesy of Robert Gifford.

Therefore, probabilistic functionalism conceives of environmental perception as an active attempt to extract a useful image of a place from a large number of potentially useful environmental cues, particularly in a setting that is new to a person. For example, people who visit a highly stimulating place, such as any downtown for the first time, or a large corporate workspace on the first day of a job, may not be able to sort out the important cues from those that are less important. In this situation, Brunswik predicts that people will actively seek out useful cues that the perceiver thinks will lead to a safe and successful existence in the new setting.

The probabilistic aspect of Brunswik's theory is that each cue may or may not be a perfectly valid indicator of the true nature of a setting. Rather, each cue has a particular probability of being accurate. Everyone has experienced perceptual errors and illusions in an environment. A new employee might perceive an office as good based on its large window and lovely flooring. However, over time in working in the office, the employee might pick up on other cues, such as peeling paint or a furniture arrangement that does not facilitate work performance. With experience, the perception that the office is good may shift in a negative direction. Some environmental cues are more or less accurate indicators than others.

Because of this variability in the validity or usefulness of individual cues, Brunswik integrated the idea of ecological validity into his theory. This refers to the degree of "truth" of the probabilistic relations between an objective environment and the distal cues that one selects for attention. Ecological validity represents the odds that a cue (or the cues as a group) will lead a perceiver to an effective or accurate perception of an actual space. Some cues may contribute to a highly accurate assessment of an environment, but others may not be immediately perceivable or may lead to false or undesirable impressions. For example, the widespread assumption that darker wall colors make a room look smaller has been supported empirically.²⁷

Brunswik further proposes that different cues are given different weights by perceivers, in the process called "cue utilization." The perceiver's conclusion about a space is presumed to be the result of this weighting process. Overall, when cue utilization closely matches ecological validity, the perceiver's understanding of an environment will accurately reflect the objective environment. This is what often happens, but not always. Inaccurate cue utilization can occur and have serious effects. For example, if a thirsty hiker comes upon the clear water in the stream, the hiker may well decide that clear and moving water means the water is safe, but if those invisible pathogens or pollutants are present, the thirsty hiker may become ill from drinking the water.

Over time, people learn to pay attention to cues that validly represent a safe and functional path through work and life. This is what Brunswik called achievement. Although the examples given illustrate possible errors, most of our everyday perception works to keep us safe—but we had to learn. The child has to learn that the cherry color of that circular metal element on the stove is not safe. Thus, achievement varies: it is an indicator of the perceiver's accuracy in assessing the objective environment. Problems can also arise in situations with which a person is unfamiliar, especially those with

environmental patterns that have a loose resemblance to those the person is used to. These problems can range from the unimportant, such as getting momentarily lost on the way to someone's office, to the fatal, such as misjudging the cues associated with a sharp curve on a highway.

Affordances

James J. Gibson²⁸ proposed that the environment (such as interiors) can be conceptualized as being made up of substances (e.g., steel, wood, glass) and surfaces (e.g., floors, ceilings, walls). In Gibson's framework, arrangements of substances and surfaces are called layouts, which provide affordances to perceivers. Affordances are functions of an environment that are instantly detectable by a perceiver as useful for a particular purpose. One classic affordance is that a flat horizontal expanse in front of a person affords walking. Another might be that a solid, horizontal surface situated about 18 in. (45 cm) off the ground affords sitting. This idea differs from Brunswik's in that Gibson believed that the environment provides perceivers with an immediate, direct functional assessment of some element, rather than the assessment being processed through a set of cues that are weighted and interpreted.

Gibson's approach has helped to highlight the role of the environment in human perception. One such influence has been on design education programs, which often teach that color, shape, and form are the essential elements. Gibson insisted that everyday perception does not rely on these elements and that designers should not be taught to focus so strongly on form and shape; the emphasis should be on substances and surfaces.²⁹ This is because, he argued, building users do not pay attention to form and shape per se, but to affordances, which are defined by substances and surfaces.

Collative Properties

Daniel Berlyne's³⁰ approach proposes that environments contain collative properties, which border on the distinction between cognition and perception. Collative properties are attributes of a setting that cause perceivers to compare environmental details and, generally, to stimulate interest in a setting, such as a particular interior. Some examples of a space's collative properties are novelty (i.e., perceived newness), incongruity (i.e., the sense that something is out of place or does not fit), complexity (i.e., its number of lines or shapes), and surprisingness (i.e., unexpected features).

Berlyne proposed that collative properties enhance (or do not enhance) one's aesthetic experience and desire to explore an environment through hedonic tone (i.e., the amount of beauty or pleasure experienced in a setting). Berlyne's work has motivated designers to create spaces in accordance to certain collative properties. For example, when some designers decided that modern urban forms were too simple in their lines (i.e., lacked complexity), they pioneered more curvy and articulated designs with the hypothesis that this made them more complex and thus greater in hedonic tone.³¹

This relation between complexity and preference does not apply to built environments in a linear way; rather, moderately complex settings generally elicit greater preference than either very simple or very complex settings. Berlyne's approach has helped social scientists and designers to further understand properties of settings that reliably elicit certain perceptions. Some researchers have added to the list of collative properties. One such added collative property is fittingness or how well a design suits a particular setting.³²

The theoretical approaches of Brunswik, Gibson, and Berlyne have shaped contemporary thought concerning environmental perception and its relation to design. Next, some examples of how interiors influence behavior and well-being will be described to highlight how social science applies its theories to learn from the users and visitors of environments designed for people.

Environmental Influences at Home and Work

Every building interior could be investigated in an effort to understand how its design attributes affect individuals, and environmental psychologists have studied restaurants, prisons, schools, submarines, the international space station, polar outposts, and retail stores, among other spaces. However, this chapter will focus on two interiors in which people spend large amounts of time, residences and workplaces. Clarifying how these places promote positive behavior and wellness is important in order to avoid designs that harm these outcomes.

At Home

The physical attributes of residences obviously influence how people feel toward, and act within, them. Of course, different housing types and designs satisfy different people for different reasons, depending on their past experience, preferences, culture, stage of life, values, and so on. One goal of residential environmental psychologists is to understand which type of housing works best for whom, and why.

Housing quality clearly is one attribute that affects how people feel about their residence. Not surprisingly, individuals report greater satisfaction with their home when the physical quality of the building is greater.³³ But why is this so? One answer is that when other factors are controlled for, higher-quality residences spur greater place attachment in residents. Another is that poorer housing quality is associated with more behavior problems in children, regardless of income.³⁴

Another major design element that influences residential feelings and behavior is housing form. For example, in a study of new residents in which participants were asked how they felt about their new homes, over half of those who moved into a single-family dwelling stated they were "definitely satisfied," but less than 25 percent of those who moved into an apartment said this.³⁵

Although one often hears that condominiums are increasing in popularity, most people in North America still largely prefer a single-family dwelling if they can afford one.

Purchasing a single-family home can symbolize wealth or achievement in adulthood. Despite being more environmentally preferable (smaller carbon footprint) and usually being less expensive, apartments and condos have been associated in some studies with poorer health and wellness, partly because of high indoor density.³⁶

However, apartments and condos obviously are not always a negative influence. Sitting them to take advantage of natural views, if possible, can help. Elderly residents of apartments are more satisfied if their unit overlooks a natural setting or if there is a natural setting available near the apartment building.³⁷ Children with visual access to nature do better in school.³⁸

Besides housing quality and form, as all interior designers know or suspect, the design of a dwelling's interior also influences attitudes toward a residence. For example, individuals generally prefer higher-than-standard ceilings that are flat or have a 4:12 slope ratio and walls that meet at ninety degrees or more.³⁹ When shown floor-plan drawings, American university students preferred floor plans that showed the living room in the upper-right-hand corner of the drawing.⁴⁰ As one might guess, this result is not true of everyone; for example, this preference was weaker for Israeli students.⁴¹ Much more research is necessary to form evidence-based conclusions about perceptions and preferences of room arrangements.

In contrast, colors for interiors have often been studied but not always well. Many studies have utilized small paint chips or other color samples within no particular context.⁴² Results from these studies may not generalize to full-scale interiors. One recent idea suggestion is that color preferences are based on their likelihood to succeed in evolutionarily important tasks. For example, in one study women showed a stronger preference for red than men did, which was attributed to the division of labor in hunter-gatherer societies in which it was the women's job to find ripe red fruit against a background of green leaves.⁴³ Another approach suggests that emotions play a role: people like colors associated with things they like (e.g., blue because of water and blue skies) and dislike colors associated with things they dislike (e.g., brown for excrement).⁴⁴ Yet these studies, too, used small chips or diagrams, isolated from real environments.

In one notable exception to the usual methods, Japanese researchers showed participants slides of (full) living rooms painted in different colors. They found that preference did not particularly depend on hue but more on saturation and brightness.⁴⁵ Hue was not strongly related to preference but rather to perceived warmth. Saturation was most closely related to preference: the more saturated the wall color, the better and more comfortable the room was reported to be.

In sum, how people perceive the environmental attributes of their homes, and how those perceptions affect them, is complex. The examples above are merely that, examples of the many studies of this topic. Much more can be found in Robert Gifford's textbook on environmental psychology,⁴⁶ as well as in other sources. Physical influences are part of the larger picture, along with social aspects, culture, socioeconomic status, and individual differences, that makes research on residential satisfaction challenging and compelling.

At Work

Environmental psychologists have extensively studied work settings and often focus on the interaction between physical elements and employee productivity and well-being. An optimal design for a specific workplace can lead to higher employee satisfaction and lower absenteeism, and save organizations money. In fact, productivity can increase by 10 to 50 percent when better workplace designs are put in place.⁴⁷ This section highlights the effects of lighting and noise as examples of social science research on the physical workplace, but it certainly does not exhaust them.⁴⁸

Lighting Illumination consists of four main dimensions: source, fixture, amount, and arrangement. Light sources in a work setting are often a combination of natural or day-lighting (e.g., sunlight) and artificial (e.g., fluorescent). Typical fixtures include ceiling and desk lamps. The amount of light is called illuminance. Lighting arrangement refers to the angle and distribution with which light strikes a work surface (e.g., uniform or nonuniform).

Unfortunately, lighting design often overlooks human preferences and needs in favor of the need for efficiency. This is the main reason why fluorescent tubes are the dominant light source in most offices and industrial workplaces. Despite their relative efficiency, employees generally do not like them. In response, many organizations have made lighting quality a priority in their decisions about office renovations. Wherever possible, giving employees the kind of light they prefer, and control over it, is a good idea.⁴⁹

Some research shows that employee performance improves with more light.⁵⁰ Of course, optimal light levels depend on the job—someone who performs detailed work will likely require more task lighting than someone chairing a meeting in a conference room. Work surfaces are also important. Shiny surfaces can cause glare when light levels are high, especially when the light source is undiffused (e.g., a bare lightbulb). Angle also must be considered; some tasks require bright but diffused lighting (e.g., surgery), but others require sharply angled lighting to make use of shadows. For example, a textile worker searching for flaws in manufactured cloth needs angled lighting to detect them.

In general, lighting ideally should be tailored to the task and to the individual employee. This strategy would likely result in more task lighting being utilized at work, yielding an energy savings based on the reduction of energy needed to illuminate large spaces at excessive.⁵¹

Not surprisingly, many employees report that sunlight is desirable.⁵² Although day-lighting, as it is also called, in the workplace can cause complaints about glare and heat, most people prefer to be located near a window. Nevertheless, greater sunlight penetration at work is associated with higher job satisfaction,⁵³ and, of course, windows offer views of the outdoors, which also contribute to satisfaction and buffer the negative impacts of job-related stress.⁵⁴

However, a balance is necessary: too much sunlight penetration is not relaxing for employees,⁵⁵ and available evidence does not show that proximity to a window increases performance,⁵⁶ even though it appears to reduce boredom.⁵⁷

Noise In a work setting, noise (which may be defined as “unwanted sound”) might come from construction equipment, office machinery, phones, background music, communications between coworkers, or all of these sources at once! Noise is not only about the volume of sound but also its source, predictability, content, and controllability (the motorcyclist enjoys the sound made by the motorcycle, but nearby employees may not). Noise is a common complaint among employees. One study found that 99 percent of office workers thought that noise levels caused primarily by telephones and conversations significantly impaired their concentration.⁵⁸

Noise impairs work performance, especially when the sounds occur at unpredictable intervals and are not controllable.⁵⁹ Employees who work in very noisy environments often are more aggressive, distrustful, and irritable than those working in environments with less noise.⁶⁰ Clearly, interior designers should aim to create settings in which sounds are pleasant; if noise must be part of the setting, ways should be found to give employees control over it.

Not all workplace sound is harmful or distracting. One employee might consider a certain sound to be pleasant while another may find it annoying and distracting. Preferences for and against different musical genres (or even music versus not music) are one example of how individual differences play a role. Some research finds that listening to music while working can enhance employees’ satisfaction and mood state⁶¹ and productivity.⁶² However, listening to music also can sometimes harm performance and many people report that they do not enjoy listening to music while working.⁶³

Designing a workplace soundscape requires consideration of all employees’ characteristics if one is to create an overall plan that best encompasses noise, employee satisfaction, and productivity. As one example, noise slows reaction times and harms the memory of older individuals more than that of younger individuals.⁶⁴ As another, the performance of noise-sensitive workers naturally decreases in noisy workplaces. Some people are able to screen unwanted sounds and stimuli better than others. Extraverts are better screeners than introverts.⁶⁵ Finally, highly creative employees perform better than less-creative employees with moderate levels of noise or arousal.⁶⁶

Noise levels in the workplace can also be important for employee health. One study showed that employees who are often exposed to unpredictable noise at work have a 60 percent greater chance of developing cardiovascular disease than other employees.⁶⁷ Even low-level noise can increase employees’ stress reactions and decrease their motivation to solve problems and improve upon their work.⁶⁸ Sound and noise are part of all work settings. Therefore, designers must not overlook the potential impact of the interior’s soundscape, given that the natural tendency is to focus on the visible aspects of a design.

Overall, not only do people influence and alter their interiors, those interiors also influence behavior and well-being. This begins with how they experience their interiors, and we must emphasize that different people experience the same interior differently. At home, at work, and in all the other settings in which we spend time, many aspects of the physical setting affect those who use them. These connections are very complex, but they are not random, and they are well understood in some ways and need further study in other cases.

PART III: CONCLUSION

Interior design is important because it affects the mood and behavior of those who occupy, use, or visit a space. The work summarized in this chapter underlines the strength of the multifaceted connections between individuals and the interiors in which they dwell. In the first section, we described the mechanisms by which individuals influence the interior spaces in which they live and work; we focused on the motivations driving individuals to arrange interiors in the service of communicating their values, goals, and identities to others (i.e., identity claims), to influence their cognitive and emotional states (i.e., thought and feeling regulators), and to engage in their everyday activities, which may leave material traces (i.e., behavioral residue) in their spaces. In the second section, we presented three central ideas about environmental perception (probabilistic functionalism, affordances, and collative properties). Then, drawing on decades' worth of research in the field of environmental psychology, we showed how features of spaces can have an impact on the short- and long-term behavior and psychological states of a space's occupants and those who visit it in terms of satisfaction, health, and performance. Lighting, windows, color, layout, art, furniture, plants, artifacts, and the arrangement of these elements all can influence the interactions and moods of the space's inhabitants, as well as the impressions of the occupants that are developed by visitors.

The processes discussed in this chapter are at work in all the residential, workplace, and commercial settings in which modern humans spend the vast majority of their time. Together the studies reviewed here demonstrate how a full account of interiors will require an understanding of people, how they affect interior spaces, and how they are in turn affected by spaces. As such, environmental psychology will continue to provide crucial insights into the multidisciplinary study of interiors.