



Beyond Beige

Rethinking Color, Pattern, and Visual Complexity
in Behavioral Health Environments

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The recommendations presented in this paper are intended to support evidence-informed design decision-making and should be considered alongside applicable clinical guidance, facility programming, regulatory requirements, and the needs of the populations being served.

A Fine Line Between Calm and Dreary

When it comes to the use of color and pattern in behavioral health settings especially, there's a fine line between environments that feel calm and those that feel dreary. Albeit well-meaning, traditional design choices often tip into depressing based on outdated research that monochromatic color schemes are most effective for calm, soothing spaces designed to de-escalate and regulate the people within.

However, new research shows that nature-based and biophilic environments improve positive affect, reduce stress, restore attention, and support cognitive functioning, all of which are relevant to therapeutic environments (Kaplan & Kaplan, 1989; Ulrich et al., 2010; Zandi & Wung, 2025), exhibit prosocial behavior (Zhang et al., 2023), and enhance psychological well-being in patients, caregivers, and visitors alike. Color and patterns that are visually complex and reminiscent of nature, in all its seasons, are consistently associated with restorative outcomes (Taylor, 2021; Ulrich et al., 2010).

For example, a green field of grass with pops of yellow or magenta flowers delights the senses, introducing visual variety in ways that can encourage curiosity rather than vigilance. This paper examines what emerging evidence tells us about color, pattern, and visual complexity and how designers can intentionally use them to support therapeutic outcomes.

Why We Designed This Way

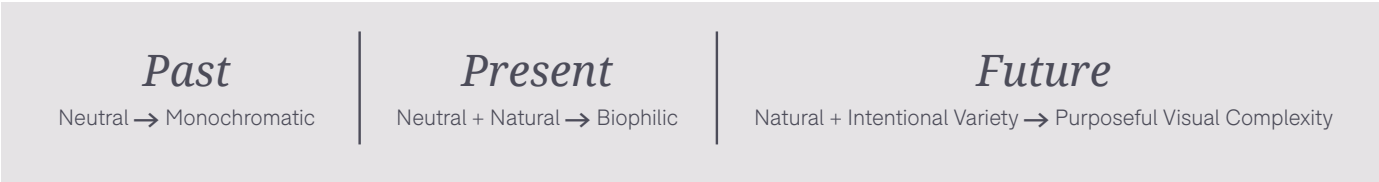
What has been referred to as the “anti-ligature” design movement began to take shape in the late 1980s and early 1990s when institutions took note of the risks for self-harm available in psychiatric environments. Centrally focused on door hinges, fixtures and plumbing, regulatory bodies formalized design standards in an effort to reduce, if not remove, opportunities patients might use to injure themselves (Liu et al., 2024).

By the 2000s anti-ligature regulations were standardized and put into practice, requiring furniture manufacturers to design accordingly. In 2007, the Joint Commission accelerated the movement by focusing specifically on suicide prevention and ligature-minimization design practices (The Joint Commission, 2007).

Largely in response to three primary concerns—sensory overload, emotional regulation, and hygiene and order—earlier design philosophy favored a less-is-best approach to design, resulting in the widespread use of monochromatic palettes featuring colors commonly referred to as “clinical white,” “hospital green,” and “soft gray” (Karlin & Zeiss, 2006). The theory was that highly saturated colors were overly stimulating to patients and could lead to escalating behavior.

Today, some behavioral healthcare environments have moved away from the stark and sterile aesthetics of the past while retaining the nature-inspired palettes we now see in many facilities.

Figure 1. Evolution of Design Trends in Healthcare Environments



Note. Figure developed by Melissa Steach, Ph.D. (2026), based on principles from evidence-based design, environmental psychology, and behavioral health design literature.

Humans Didn’t Evolve in Beige

Humans, however, did not evolve and do not exist in neutrality. Humans have evolved in environments rich with visual information. One need only compare the visual contrast of a natural landscape to a sterile corridor (Appleton, 1975).

Figure 2. Contrasting Natural and Institutional Visual Environments



Note. Images shown for illustrative purposes to contrast naturally occurring visual complexity with a visually simplified institutional environment.

This preference for visually complex design inspired by the natural environment has long been observed across cultures to form the basis of much of today's research in environmental psychology (Kaplan & Kaplan, 1989; Kellert & Calabrese, 2015).

In his landmark study, Roger Ulrich demonstrated that patients exposed to views of the outdoors recovered more quickly than those whose hospital rooms overlooked a brick wall. The study also found that these patients required fewer strong pain medications and received fewer negative nursing evaluations (Ulrich, 1984). This is because when design mimics the visual complexity present in the natural world, the nervous system positively responds (Kaplan & Kaplan, 1989; Taylor, 2021; Ulrich et al., 2010).

Understanding Visual Complexity

Our brains are wired to see fractals, recognize patterns, and seek information about the state and structure of our environments to decipher threats and thereby determine whether an environment is safe (Appleton, 1975; Kaplan & Kaplan, 1989; Taylor, 2021). This is especially true for individuals in heightened states of acuity. And, contrary to popular belief, nature-inspired visual complexity provides opportunities for cognitive restoration, acting as a balm for the brain. One might liken the experience to the catharsis found in assembling a jigsaw puzzle.

Visual complexity consists of color, pattern, contrast, texture, scale, materiality, rhythm, and wayfinding cues (adapted from Kellert & Calabrese, 2015). And as in nature, the experiential difference between a well-manicured garden maze and an unknown wild forest is trust and delight versus fight or flight. Each built environment requires different proportions of each ingredient to support the therapeutic modalities used there.

Figure 3. Visual Complexity as a Continuum



Note. Figure developed by Melissa Steach, Ph.D. (2026), based on principles from evidence-based design, environmental psychology, and behavioral health design literature.

Color

When discussing color psychology, the tendency is to assign positive and negative attributions to individual colors. However, one look outdoors illustrates that most every known color is naturally on display depending on the season and one's location in the world. The question then becomes multifaceted: color must be considered not only for its hue, value, and saturation, but also for the variety, proportion, and combination of colors throughout the environment. Limiting selection to color psychology alone risks a visual flattening that assumes a one-color-suits-all approach that can stymie an organization's ability to foster a sense of belonging among the people within the space by muting individual preferences, dampening cultural diversity, and subduing collective creativity in one broad stroke of beige.

Research by Coburn et al. (2020) suggests that aesthetic experiences within the built environment emerge from the interaction of multiple environmental characteristics—including color, texture, pattern, and spatial composition—rather than color alone. Similarly, research by Taylor (2021) suggests that environments reflecting the visual characteristics of nature promote healthier physiological and psychological responses than environments lacking these characteristics.

Pattern

Likewise, the choice and application of pattern require similar consideration. Patterns that are organic, geometric, or fractal, large-scale or small-scale are all applicable. A prime consideration is the “tempo” or “rhythm” as animated by the complexity and scale of the pattern. For example, large patterns may evoke a slower visual rhythm while creating a stronger visual presence. When used effectively, they can create pleasing, calming sensations and a sense of awe and away-ness („being away“) (Kaplan & Kaplan, 1989). Conversely, they can also be imposing and intimidating.

Small-scale patterns can produce light, upbeat rhythms that elevate mood and lead the viewer on pattern-finding excursions that engage the mind to focus and self-soothe via positive distraction (Ulrich et al., 2010). If overused, these same patterns may become agitating for certain individuals and could increase arousal or contribute to feelings of anxiety.

One added benefit of using pattern in behavioral health design applications is that it is often expressed through textured materials. When texture is introduced through design elements such as wallcoverings, flooring, or textiles, these tactile surfaces can further support stress reduction through touch (Kellert & Calabrese, 2015).

Designing for the Therapeutic Goal

When designing for therapeutic environments, the use of color and pattern becomes less about selection and more about proportion relative to the facility’s function.

Figure 4. Visual Variety by Acuity Level

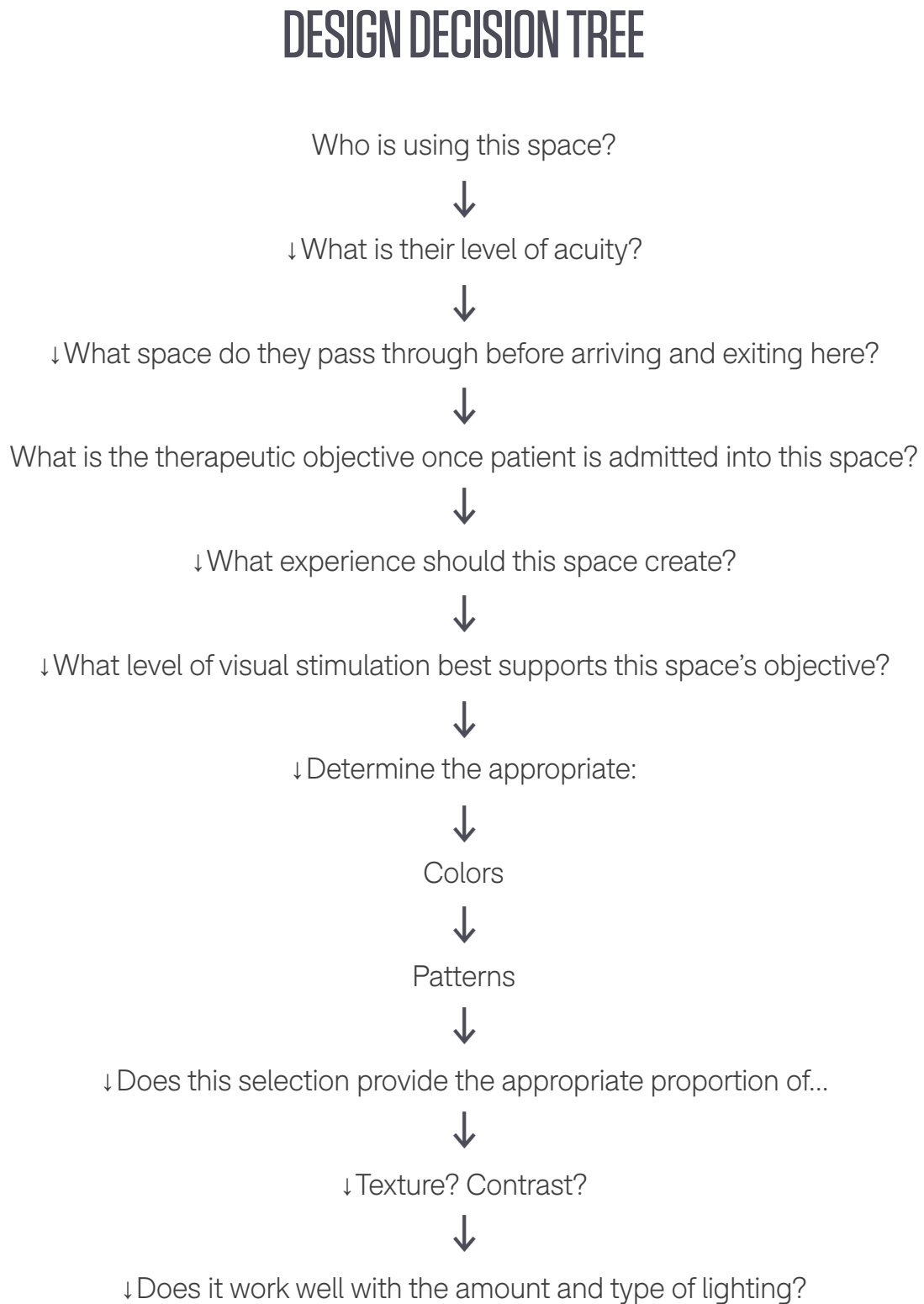
Acuity	Color	Pattern	Recommended Visual Variety
Higher	●	●	Minimal
Moderate	● ●	●	Moderate
Lower	● ● ●	● ●	Greater

Note. Figure developed by Melissa Steach, Ph.D. (2026), based on principles from evidence-based design, environmental psychology, and behavioral health design literature.

A Practical Design Tool

The following decision support tool serves as a practical framework to help identify the level of visual complexity best suited to a facility’s therapeutic goals. Although soft greens, blues, and natural beige and gray palettes remain popular because they’re effective, they are not the only evidence-informed solution. The framework below is intended to help designers and healthcare leaders make intentional decisions based on therapeutic objectives rather than predetermined color prescriptions.

Figure 5. Decision Support Tool for Therapeutic Visual Environments



Note. Figure developed by Melissa Steach, Ph.D. (2026), based on principles from evidence-based design, environmental psychology, and behavioral health design literature.

Conclusion

Calm is not relegated to particular colors, nor is it achieved by removing pattern or visual information altogether. Rather, calm emerges from intentionally designing the right amount of visual complexity to support the people within it. When color, pattern and their proportion are thoughtfully selected to meet people where they are, support the therapeutic goals of each space, and foster healing over time, the built environment quietly communicates belonging, dignity, respect, and care.

Furniture is one of the largest contributors to a room's visual experience. Thoughtful choices in color, texture, and pattern enable designers to create environments that are not only safer, but also more supportive of recovery, human dignity, and the therapeutic mission of behavioral healthcare.

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**The best environments do more than just provide protection.
They also help people to recover.**

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Designed for Peace of Mind