

Five-Senses Healing Landscape Design for Adolescent Mental Health

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Abstract: Due to societal developments, adolescents are exposed to stressors from external environments, family dynamics, and other sources, resulting in frequent mental health issues that have garnered widespread societal attention. Current research on Five-Senses Healing Landscape Design for adolescent mental health remains limited. This study aims to optimize Five-Senses Healing Landscape Design tailored to adolescents' psychological needs, guided by the value orientation of prioritizing mental wellness and promoting well-rounded development. It endeavors to develop a holistic strategy that integrates therapeutic landscapes with mental health-enhancing elements, thereby creating a healing landscape that embodies multisensory experiences and natural ecology. The research seeks to provide supplementary psychological support for adolescent mental health, foster their holistic physical and mental development, and contribute to advancing the national Healthy China Initiative.

Keywords: Adolescent; Mental Health; Five-Senses Healing; Landscape Design.

1. Introduction

Globally, the incidence of adolescent mental health issues is rising year by year, becoming a focus of social concern. Traditional treatment methods are less effective due to resistance or non-cooperation from many adolescent patients, making it urgent to find non-traditional and more acceptable treatment approaches for adolescents. As an important place for adolescents' life and learning, campuses have unique advantages as platforms for mental health treatment, and Five-Senses Healing Landscape Design improves mental health by stimulating the five senses[1]. This paper aims to explore how to apply it to the healing of adolescent mental health, assisting adolescent patients in their early recovery.

2. Research Background

Social Context: China is currently undergoing social transformation, characterized by accelerated pace of life and work, intensified social competition, and increased psychological pressure among the populace, leading to prominent mental health issues [2]. The State Council's "Healthy China 2030" Planning Outline proposes strengthening the construction and standardized management of mental health service systems for all citizens, with enhanced early detection and timely intervention for key populations. Since the 18th National Congress of the Communist Party of China, regulatory and policy frameworks for adolescent mental health education have progressively improved, yielding certain achievements. However, the mental health status of adolescents remains concerning[3]. *The 2023 Blue Book on Mental Health in China* indicates that individuals under 18 account for 30% of all mental health patients, with an adolescent prevalence rate of 15–20%—approaching adult levels. This necessitates building an interactive and change-promoting dynamic system integrating society, family, and individuals.

Practical Context: Research demonstrates that creating healthy landscape environments and facilitating wellness activities can enhance students' physical and mental health.

Providing safe, comfortable outdoor spaces where students experience natural tranquility to alleviate psychological pressure is urgently needed. Furthermore, integrating Five-Senses Landscape Design as an adjunctive therapeutic approach with psychological interventions can create venues for adolescent patients to relax and socialize. This fosters a stronger sense of belonging and self-confidence within school settings, thereby better promoting holistic health development [1].

3. Definitions of Related Concepts

3.1. Characteristics of Adolescents with Mental Health Disorders

(1) Emotional Aspects

Exhibit persistent low mood, despondency, helplessness, loss of interest in daily activities, and even suicidal ideation.

(2) Behavioral Aspects

Manifest behaviors such as school refusal, truancy, running away from home, and internet addiction.

(3) Psychological Aspects

Patients demonstrate low self-esteem, perceiving themselves as worthless or incompetent, accompanied by excessive guilt. Concurrently, they experience impaired concentration, memory decline, cognitive slowing, and delayed responsiveness.

3.2. Principles of Five-Senses Healing Landscape Design

Five-Senses Healing Landscape Design improves individuals' mental health by creating environments with specific visual, auditory, olfactory, tactile, and gustatory stimuli. It emphasizes the interaction between the environment and individuals, enabling people to feel comfortable and relaxed in natural settings. For adolescent patients, this design can provide positive psychological cues, helping them alleviate anxiety and depressive emotions[4]. Experiencing the messages conveyed by different landscapes encourages them to develop independent thinking and analysis, ultimately guiding themselves to face learning and

life with a correct attitude.

4. Design Planning of Five-Senses Healing Landscape Spaces for Adolescent Mental Health

The functional spaces are primarily distributed across therapeutic and learning zones, with the Five-Senses Experience Area divided around multisensory interaction to enhance stimulation and train sensory perception abilities. Visually, a comfortable environment is created through colors, lighting, and natural element patterns; auditorily, natural sounds such as flowing water and birdsong alongside soothing music foster tranquility; olfactorily, plants with calming effects like lavender are employed; tactilely, touchable natural elements provide comfortable experiences; gustatorily, fresh fruits and herbs offer tasting experiences—collectively synergizing to build a supportive environment[5].

5. Practice of Five-Senses Healing Landscape Design for Adolescent Mental Health

5.1. Project Background

This project is located at Wuhan No.1 High School in Hubei Province, a key high school in the region. In 2000, it was recognized as a "Provincial Exemplary High School" by the Education Supervision Office of the Hubei Provincial People's Government, and is designated as an "Outstanding Experimental School of Modern Educational Technology in Hubei Province".

5.2. Functional Zoning of Five-Senses Spaces

5.2.1. Tactile Healing Zone

Adolescents' emotionally unstable tendencies necessitate spatially regular and modular patterns[6]. This design utilizes tactile environments for hands, feet, and torsos, enabling direct contact with plants and facilities to enhance haptic perception of the external world.

The Planting Interaction Area implements cobblestone stepping paths and adopt-and-plant seed beds, allowing adolescents to track seed growth trajectories while receiving tactile stimuli through nature engagement.

The Meditation Zone employs resilient elastomer spheres made of thermosensitive materials to provide varied temperature experiences, real-time monitoring of emotional fluctuations[7]. Enclosures at ergonomic heights ensure privacy preservation, emotional soothing, and stress alleviation.

Therapeutic play equipment (e.g., sensory swings and balance beams) intensifies proprioceptive input through gravitational stimulus, optimizing sensory integration training[8].

5.2.2. Visual Healing Zone

As the majority of human-received information is captured by the eyes, visual perception delivers the most immediate sensations at the fastest speed[9]. Designs should align with adolescents' color preferences and graphic perception thresholds.

The Scenario-based Interactive Space employs four-dimensional stereoscopic transformation, characterized by immersiveness, narrative content, and gamified engagement. It switches scenes via stereoscopic imaging while integrating

contextual props for interactive activities, enhancing adolescents' hands-on communication skills. This approach adheres to trends of authenticity, functionality, and cultural integration, synergizing with intelligent modes to amplify therapeutic outcomes. Additionally, the "If You Could Hear My Voice" installation—featuring variably sized cubic structures—provides emotionally unstable adolescents with recreational and self-dialogue spaces for storytelling and emotional release. Constructed with safety-certified anti-slip materials to ensure physical and psychological safety, the installation incorporates virtual screens to create immersive visual spectacles.

5.2.3. Gustatory Healing Zone

Gustation refers to the sensation stimulated by food in the oral cavity. The design incorporates planting activity areas where self-participation in cultivation allows temporary escape from negative stress, enabling individuals to feel needed through nurturing plants. It also includes floral art and bonsai design experiences. Nature-based education guides adolescents to observe, experience, reflect, analyze, and create, fostering their initiative and value recognition within natural settings[10].

Tasting self-harvested produce while engaging in social interactions enhances novelty perception toward food, thereby stabilizing emotions.

5.2.4. Olfactory Healing Zone

Olfaction refers to sensory perception detected by nasal receptors. The design incorporates Horticultural Experience Zones to enhance air freshness and improve adolescents' olfactory acuity[11].

Olfactory devices accumulate and deliver natural scents, while medicinal plants with high therapeutic value (e.g., mint and cinnamon) boost concentration and alleviate emotional distress. Olfactory healing is achieved during scent identification tasks.

Modular plant containers—crafted from wood and glass for portability—protect vegetation while attracting interactive engagement. These units train adolescents' olfactory discrimination, sensory perception, and emotional regulation.

5.2.5. Auditory Healing Zone

Audition refers to the perceptual capacity for sound reception. In urban landscape design, sounds are primarily categorized as natural sounds and artificial sounds. Certain acoustic signatures can evoke spatial associations, thereby contributing to landscape identity formation[12].

Horn-shaped auditory tubes accumulate natural sounds. Erected amidst dense grasses and trees, these variably sized sound installations resemble "sound towers" emerging from a vegetal sea. By leaning close to the tubes, adolescents perceive nature's vitality through transmitted ambient acoustics, healing auditory sensitivity while gently soothing their psyches.

6. Conclusion

Under the multi-faceted pressures of contemporary society, adolescents face increasing psychological challenges that adversely impact their academic and daily lives. Guided by the Healthy China Initiative, this design employs Five-Senses Landscape Therapy to intervene in adolescent mental health. By analyzing the principles and applications of this methodology and integrating the developmental characteristics and issues of adolescent psychology, it emphasizes a human-centered approach to explore the nexus

between landscapes and individuals. The ultimate aim is to create environments that alleviate stress, reduce fatigue, and foster positive emotions, thereby contributing to the "Healthy China" vision. Additionally, this non-pharmacological approach mitigates adolescents' resistance to medication and psychotherapy.

Challenge: Implementation requires personalized protocols accounting for age, gender, interests, and other individual factors. Future research will further investigate tailored designs aligned with adolescents' unique needs and validate the long-term efficacy of this methodology.

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