

Exploring the Integration of Art Healing Principles into the Environmental Design of Public Spaces: A Multidisciplinary Approach

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Abstracts. The aim of this thesis is to explore how art healing principles can be integrated into the environmental design of public spaces using a multidisciplinary approach, thereby providing academic professional insights into the field. As society's focus on individual health and well-being continues to grow, the importance of public space design in promoting social well-being has become increasingly apparent. Art therapy, as a multi-layered therapeutic approach, has a wide range of applications in promoting physical and mental health. This study explores the interrelationship between environmental design and art healing and its potential impact through a systematic literature review and case study. It has practical implications for designers, planners and policy makers. It provides a comprehensive perspective that offers guidance and insights for integrating environmental design and art healing in public spaces. Further research and practice will lead to the creation of more qualitative, meaningful and sustainable public spaces that promote people's health and well-being.

Keywords: Art healing, public space, environmental design, social participation, physical and mental health

1. Introduction

In today's fast-paced, high-pressure modern society, more and more people are facing psychological sub-health problems such as social fear, psychological anxiety, loneliness, depression, etc., and have not been able to find effective solutions. According to the survey data of the 2018 White Paper on Mental Health of Urban Residents in China, the rate of mental sub-health status of our nationals is 73.6%, and the percentage of residents with different degrees of psychological problems is 16.1%. When the group asked the respondents about their self-mental health status with this single-choice question, only 10.3% of them answered "very good" (Figure 1) [1]. This indicates that a large proportion of people have serious mental health problems and a large proportion of people are unable to control their negative emotions. The environmental design of public space that is compatible with art healing is like a "good medicine" that heals people's spirit and helps them face life more optimistically. In this study, based on the application of art healing environmental design in public space, we call for more attention and research to promote the progress of urban planning and

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design. By understanding the interactive relationship between public space design and art healing, so that it is not only limited to the appearance and sensory experience, but also deeply integrated and interacted with social interaction, sustainable development, and cultural inheritance, we provide comprehensive and innovative ideas for public space design. At the same time, considering the limited nature of the earth's resources, it should also focus on sustainability and environmental friendliness, in order to realise the harmonious coexistence of man and nature. In addition, the integration of art can also convey local history, culture and national characteristics, promote regional culture, and facilitate the establishment of cultural heritage and identity.

Therefore, this paper will delve into the use of a multidisciplinary approach to integrate the principles of art healing into the environmental design of public space, exploring solutions to emotional problems that serve both the quality of human life and the sustainable development and cultural heritage of society. Through multidisciplinary inspiration, it focuses on inter-disciplinary relevance and interaction, with a view to providing innovative and sustainable solutions for future public space design.

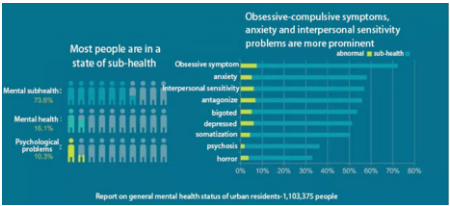


Figure 1. 2018 White Paper on the Mental Health of Urban Residents in China

2. Art healing has the effect of promoting emotional healing

2.1. Theoretical Foundations and Support for Art Therapy

Art therapy is a psychotherapeutic approach based on the creation and appreciation of art, integrating theories and practices from a number of fields, including psychology, aesthetics and medicine. It is influenced by psychodynamic theory, humanistic theory, positive psychology, and theories of aesthetics and aesthetic experience. Wilbert M. Geisler, in his book *The Healing Space*, states that healing should encompass a wide range of physical, psychological, emotional, and social aspects, and generally refers to the process of relieving stress, restoring, and further promoting a more holistic state of wellness [2]. Thus, art therapy is considered as a way to facilitate the change of negative emotions in a new cognitive way for the person experiencing it. One of these is the ability to regulate one's state of being by engaging in narrative activities through various mediums, in addition to the familiar avenues of art making. Psychodynamic theory suggests that art therapy can help individuals express and process subconscious emotions and conflicts, and that artworks can be a medium for individuals to dialogue with psychodynamic processes, facilitating exploration and self-discovery [3]. Humanistic theory emphasises the self-actualisation and growth of the individual, and art healing provides a creative space where individuals can express and explore their inner emotions and experiences through art making. Art-making can promote self-awareness, emotional release and psychological well-being in individuals. It can help

individuals discover new perspectives and approaches to problem solving and promote growth and change [4].

Theories of aesthetics and aesthetic experience suggest that art healing provides a positive, pleasurable, and meaningful aesthetic experience through the appreciation and engagement of works of art. Therefore, when we look for solutions to our emotional problems, we can choose art healing as a body-mediated cognitive approach.

2.2. Art therapy promotes personal awareness and understanding of one's own experiences

The formation of the healing effect of art on emotions is based on the body's processing and understanding of emotional information, and therefore the body's state of movement plays an important role in the experience and perception of emotions throughout the healing process [5]. It is the change in emotional information that has a direct impact on healing.

The process of art healing involves the integration of perception and movement, which are closely related, and through the body's perceptual experiences and motor behaviours, people are able to express and explore emotions. Through sensory art, people can experience and express their emotional states through their senses [6]. Art therapy can facilitate emotional expression and personal growth in individuals, providing a theoretical basis for art therapy practice that encourages the integration of bodily experiences into the therapeutic process to facilitate clients' self-exploration and emotional development.

Art healing is an integrated system that must be supported by environmental factors, the acquisition of emotional information and healing should take into account the environment in which it is located and the gathering of people around it, therefore, the elements of the environment itself are combined to form a system that is open to the human body's relationship with the input and output of emotional information, and the content of the emotional information has to be changed with the new elements of the environmental system, and correspondingly be adjusted to form an understanding of the new emotional information [7]. The so-called environmental factors refer to the general media that will interact with the human body, which can be scenes or other substances.

The generation of information in the art healing process is based on the interaction between the body and the current environment, so the whole healing process needs the time dimension as an elemental support. However, very often the process of recognising something new is actually the process of reproducing and re-recognising memories and experiences [8]. Individuals can draw on past experiences and receive relevant information, thus improving the overall effectiveness of healing.

3. The relevance of art therapy interventions in the design of public spaces

The White Paper on the Mental Health of Urban Residents in China points out that mental health is closely related to physical health, and that the poorer the physical health, the higher the incidence of psychological problems; the mental health of urban residents with subhealthy thyroid nodules, benign breast lesions, uterine fibroids, obesity, insomnia, and so on, is poorer. The proportion of subhealth is 54.7%-64.7%,

and the incidence of psychological problems is 24.3%-37.3% (Figure 2). In addition, among urban chronic disease patients with tumours, cerebral infarction, myocardial infarction, coronary heart disease and other chronic diseases, the problems of depression and anxiety are prominent, and 50.1% of urban chronic disease patients have psychological problems of different degrees (Figure 2).



Figure 2. 2018 White Paper on Mental Health of Urban Residents in China

According to the results of the latest survey on China's national mental health, there are prominent differences in the mental health status of people of different ages and incomes, and the factors affecting depression and anxiety levels are highly similar. In the adult population, the detection rate of depression risk in the 18-24 age group is 24.1 per cent, which is significantly higher than that of other age groups; the detection rate of depression risk in the 25-34 age group is 12.3 per cent, which is also significantly higher than that of all age groups aged 35 and above. The age difference in the detection rate of anxiety risk showed a similar trend. In addition, among different income groups, the detection rate of depression risk varied curvilinearly with the increase of monthly income, with the highest detection rate in those with monthly income less than RMB 2,000, which was significantly higher than that of other monthly income groups (Figure 3).

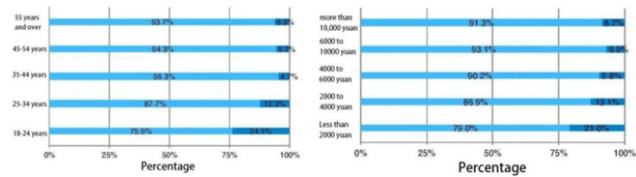


Figure 3.China National Mental Health Development Report China National Mental Health Development Report

Data show that the mental health problems of urban residents are becoming more and more serious, but only a small number of people choose to receive professional psychological treatment, and the vast majority of people choose to repress themselves. Combined with the analysis of the above data, not everyone can adapt to self-regulation, which leads to a large area of urban residents in a state of psychological sub-health, but lack of effective guidance, and at the same time, due to the pressure of social

evaluation, they are also more resistant to confide in others or seek professional treatment, which triggers the vicious cycle of "group loneliness" [9].

In order to heal the emotional wounds of urban communities, community participation and social capital are promoted through interventions in the design of public spaces. The process of participation and creation of art projects can stimulate interaction, co-operation and social connections between community residents, thus enhancing community cohesion and social capital. Due to the openness, sharing and social interaction of public space, public space design, as a means of interaction in public space, can make the emotional healing of the community cover a wider range, alleviate the psychological pressure of more people, and provide a practical and effective means of community development and social improvement, which is of practical significance.

3.1. Designing Public Space as a Vehicle for Art Therapy Interventions

Public space is an important part of the human living environment, inseparable from landscape, race, culture and ecology. Although its form, proportions, feel, quality and symbolism have varied considerably in different historical periods, the consideration and treatment of public open space from an artistic perspective has always been an important aspect of mankind's efforts to optimise its own existence and situation [10]. By incorporating visual, auditory and tactile elements into public space, a rich, pleasurable and engaging sensory environment can be created. These sensory experiences can evoke emotional resonance, stimulate imagination and creativity, and have a positive impact on an individual's emotional and psychological well-being. Therefore, it is believed that art therapy can have a positive impact by stimulating and channelling sensory experiences [11].

Most of the existing public space design focuses on the enhancement of visual aesthetics, or focuses on the stacking of various functions, solving the problem of urban physical space from the macro level. However, few public space designs focus on residents living in the city at the micro level to relieve their mental pressure, and with the development of the economy and society, people have more expectations for the content carried by urban furniture [12]. In recent years, a large amount of data and research in most countries around the world have shown that art has a good effect on the treatment of mental illness, and a large number of experimental studies have shown that group art therapy can help patients with psychiatric symptoms to become visible in their expression of emotions, ideas and perceptions, and at the same time, it can develop the potential for creativity and promote mutual support among members of the group [13]. With the rapid development of society and economy, people living in cities have higher requirements and expectations for public space design. The positive impact of the natural environment on the physical and mental health of individuals. According to the "restorative environment theory", the natural environment can relax people, restore attention and reduce stress. Therefore, public space design should consider people's perceptions and feelings about the environment in order to create a positive art healing experience. Good public space design should focus on people's orientation, recognisability, comfort and emotional connection [14].

3.2. Applying art therapy in the design of public spaces

The application of art healing in the design of public space should be both artistic and fun on the basis of necessary material needs. By 'urbanising' artworks and gradually integrating them into life, this artistic and fun design can subconsciously relieve residents' psychological stress, as in the case of German digital design studio Ulises' recent vision of an inflatable public library in the middle of a city street (Figure 4). The project, titled 'Cultural Constellation', utilises the Midtravel concept to design a series of public elements such as platforms, canopies and benches made of translucent inflatable PVC, stacked with books. These well-lit street libraries provide passers-by with a comfortable corner to read and rest while travelling through the city, integrating into the urban fabric and "filling" the streetscape with culture, creating a good interaction between public art and the city.



Figure 4. Cultural Constellation "Public Libraries

The use of art healing in public space design needs to be interactive. As the audience is passers-by and neighbourhood residents, it is unrealistic to expect them to interact with strangers, so this social awkwardness needs to be avoided by allowing people to complete the interaction. For example, in Pierre Square (Figure 5) in Amsterdam, the Netherlands, the urban regeneration design is based on "creative" design works, using installation art to carry creativity and incorporate practical functions to stimulate the vitality of urban space. Pierre Square is both a sculpture and a publicly accessible urban terrace with a partially 'skinned' and curled wooden platform. The platform blends in with the existing trees on the site and is furnished with six benches and tables. The 'peeled' part of the platform creates a space for people to sit and lie down, and its simple structure makes interaction easy to understand, creating a lively spatial gesture on the street that allows for subtle interactions between participants in the space.

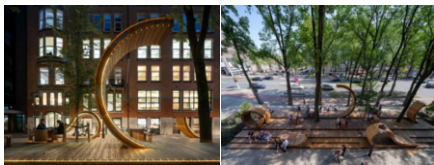


Figure 5. Piel Plaza, Amsterdam

3.3. Effectiveness evaluation of art therapy and environmental design

Evaluating the effects of combining art healing and environmental design can be done using a variety of methods and tools, combining both quantitative and qualitative data in order to get a full picture of its impact and value. The effects of art healing and environmental design can be quantified by collecting quantitative data. Tools such as questionnaires, observation records and physiological measurements can be used to assess people's experiences and emotional states in art healing environments. These data can include physiological indicators such as mood changes, stress levels and heart rate variability, as well as subjective assessments such as engagement, satisfaction and attention levels.

By statistically analysing the data collected, conclusions and trends can be drawn. Statistical methods such as correlation, regression and ANOVA analyses can be used to determine the impact of art healing and environmental design on people's emotional states, concentration and stress levels. These analyses help determine the effectiveness of design elements and strategies. Specific empirical data and experience can be gained by studying relevant case studies. Analyse projects where art healing and environmental design have been implemented to understand their effectiveness and outcomes. These cases can provide practical data and insights for the evaluation of art healing and environmental design.

Recent research and findings continue to enrich our understanding of the effects of art healing and environmental design. A number of studies have shown that art healing and environmental design can significantly improve people's emotional state, reduce stress, and enhance their sense of well-being. For example, it has been found that the introduction of art healing elements into healthcare environments can reduce pain and anxiety and facilitate the healing process. In addition, several case studies have shown that people in schools and offices with art-healing environments exhibit higher levels of productivity, creativity and satisfaction.

4. Challenges to current research and future developments

4.1. Limitations of current research on art healing and environmental design

In the past decade, China's urbanisation has been extremely fast, when society generally advocated "big and comprehensive" planning and design, resulting in a large number of abandoned "aberrant zero parcels" with low space utilisation in the city, but the era of large-scale demolition and construction has now passed. In the next decade, urban micro-renewal and community building based on existing sites will be "small and beautiful" [15]. In the next decade, urban micro-regeneration and community building based on existing sites will be "small and beautiful". A great deal of exploration has been carried out in various areas to address the above issues, but the limitations of these two studies have also been exposed. The interaction between individuals and their environments is influenced by many different factors, including personal characteristics, cultural background and social context. In art therapy and environmental design research, we must consider the diversity of people and individual

differences, as well as the complex interactions between the environment and the individual, with different cultures having different values [16].

Methodological challenges are one way to assess research on the effectiveness of art healing and environmental design, which requires a combination of methods and tools, and there is still a lack of consistent methodological guidance. There may be differences in the measurement tools and indicators used in research, making it difficult to compare and synthesise results from different studies. Therefore, it is important to establish a standardised system of assessment methods and indicators to ensure comparability and replicability of studies. The development of uniform measurement tools and assessment indicators will enable different studies to use similar methods to collect and analyse data.

Current research has focused on the short-term effects of art healing and environmental design, with relatively little evaluation of long-term effects. It is important to understand the lasting effects of art healing and environmental design on the health and well-being of individuals. This can be achieved through long-term longitudinal studies or long-term follow-up in cross-sectional studies. To do this, it is important to conduct long-term follow-up studies that track the experiences and effects of participants in art healing environments and assess their long-term effects on health and well-being.

4.2. Future research directions and trends

With the development of today's society, the application and innovation of digital technology provides new creativity and interactivity, such as virtual reality technology and augmented reality technology.

Future research and development can promote the application of interdisciplinary co-operation and integrated approaches. Knowledge and methods from different fields can be fused together to provide a more comprehensive understanding and solution to the research direction. Art healing and public space design involves many fields such as psychology, sociology, and environmental design. These research directions and trends will drive innovation and progress in the field of art healing and public space design, and these avenues will become more efficient and accessible, providing people with more quality and meaningful public spaces that promote their health and well-being.

5. Concluding remarks

With the rapid development of society, most people are in a state of high-intensity pressure as well as internal depletion. Based on the above, from the perspective of environmental design, we explore the use of multidisciplinary methods to integrate the principles of art healing into the environmental design of public spaces, we can create unique and beneficial public spaces that can positively affect people's physical and mental health.

However, our study has limitations. In future studies, more attention needs to be paid to community participation and participatory design to ensure the inclusiveness and sharing of public spaces. Also, the application of digital technology and

sustainability principles are important directions for future development. This research can provide insights into how environmental design and art therapy can be integrated with each other to create more positively impactful public spaces. Through in-depth research, we can discover innovative design principles, methods and strategies that can improve people's physical and mental health and well-being.

Express Gratitude (esp. in public)

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