

The Emotional Healing Space Design of Industry Space Renewal in Shanghai

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Abstract

Research objectives. 1. To Design and develop innovative therapeutic environments that incorporate multisensory interaction and virtual reality, with a focus on optimizing the potential for emotional wellness. 2. Consider factors such as sensory stimuli, user experience, and spatial design to create immersive and engaging environments.

Research sample. Four hundred and fourteen (440 actual testers, 414 valid questionnaires) employees between the ages of twenty-four and twenty-seven shared their experiences and identified effective strategies for promoting emotional release and stress relief.

Research tools. By analyzing the data collected from field research, interviews, and questionnaires, will develop innovative design concepts that prioritize the mental health of the working population.

Data collection. Data were gathered by administering the questionnaire while using practical and purposeful sample techniques.

Data analysis. For data analysis, SPSS (26.0 version), 0-5 score liked table, and Excel analysis were utilized. The outcome suggested that the soft colors, natural materials and green plants might expose the amount of mental stress substantially, affecting job performance.

The research results found that the development of mental health infrastructure in workplaces, ultimately improved overall employee well-being. The applied project aims to create a tranquil and soothing environment that promotes relaxation and rejuvenation. the space provides a sanctuary for individuals to heal and restore their emotional well-being.

Keywords: Healing space; Environmental psychologies; white-collar worker

Introduction

Mental health is an issue of concern for society, especially in the modern city of Shanghai, which is in the economic center of China. Shanghai has many office complexes with a very large percentage of office workers, so mental health-related facilities need to meet a certain number of requirements. It was found that only 5.1% of people are mentally healthy, 44.9% are in a subhealth state, and 50.1% have different degrees of mental health problems (Han, Q., Xu, P., Zhang, Y., & Li, Y.Y., 2020). Among them, there is already a large proportion of mental health problems among office workers. Work environment and busy work indirectly lead to mental illness through occupational stress (Jiang, X.W., Ju, W., & Chang, C., 2019).

According to the Shanghai Young White-Collar Stress Survey, 147 out of 414 respondents considered stress to be "very high," accounting for 35.6%; 226 considered stress to be "relatively high," accounting for 55.7% (Zhao, L.Y., 2012). They face fierce competition, a relative sense of scarcity in the market, and a high workload that makes their daily emotional stress even higher. Their high income enables people around them to live a good life, while

their actual emotional fatigue makes them live in frustration and pain (Liu, L., 2019). In a word, the environment affects people's emotions. The design of emotional healing themes can be used to improve people's mental states from the environment. This paper explores how designers can make connections between space and psychology to stabilize emotions and alleviate mental illness, and further investigates the specific factors that influence emotions and the specific functions of space. Based on the industrial space, a rehabilitation indoor theme place is established for office workers to help them release their emotions and relieve stress. Creating a healing space in the workplace can be beneficial for employees who may be experiencing psychological problems. By providing a supportive and nurturing environment, employers can help alleviate stress and promote overall well-being among their workforces. Additionally, incorporating elements such as natural light, calming colors, and comfortable furniture can further enhance the healing process and contribute to a positive work environment.

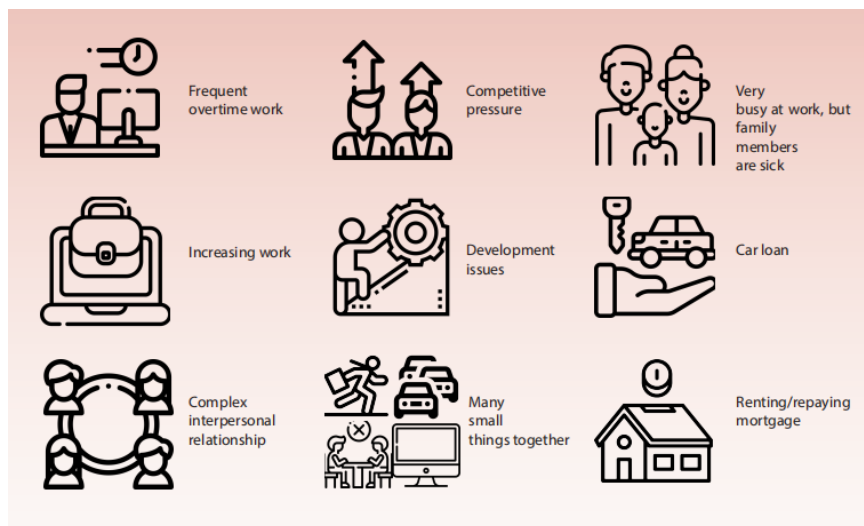


Figure 1. The research background

Source: Author's own work

With the progress of society, mental work has replaced a lot of heavy physical work, As shown in Figure 1, the general fatigue mainly in the body muscles brought about by labor production has gradually shifted to local fatigue mainly in the higher nervous system, so sports can not only make the highly fatigued nervous system get rest and fatigue shift, but also relieve nervous tension. Yoga has become the preferred method for most office workers because the process is easy and soothing, unlike other strong physical exercises. Yoga exercise can effectively release and relieve mental stress and tension, which helps to improve mental function, thus gaining mental pleasure and relaxing the body and mind (Liu, J., Wang, X.L., & Ding, D.M., 2010).

In the 2005 China Employee Mental Health Survey conducted by China Human Resources Network, 1/4 of working people have mental health problems (Xiao, H., 2005). In a random sample survey of the mental health status of office workers in business buildings in the central city of Shanghai, 36.7% of the population was at moderate risk or higher (Yang, P.D., Chen, Y.M., Jiang, Y.M., Zhu, Ding, S.Y., 2009). The mental health problems of Shanghai

office workers are mainly related to life stress. Among them, work stress is an important part of the stress of office workers. The fast pace of work and heavy workload; overtime, late nights, and insomnia are the visual manifestations of work stress. They are workplaces, rented houses two points of life. The way to cope with stress is self-resolution, which is a self-released mechanism, but this mechanism is short-term and limited. At present, the proportion of working people in Shanghai is increasing and the competition is getting fierce. However, social welfare programs that care for them have not kept pace with the development. Therefore, methods designed to reduce stress and reduce emotions have to care for the psychology of young urban white-collar workers.

Interior color affects people's senses and emotions. The warmth and coolness of the color palette greatly affect the user experience and influence the functional division of the room and the transmission of emotions. Indoor warm tones because of the bright colors will bring people a positive, warm feeling, easy to make people happy mood; cool tones because of the cold color reduce the human sensory stimulation, make people calm and composed, and can effectively offset the impact of depressed emotions on people; neutral tones because of its color does not cause visual fatigue more used with the excessive color (Huo, Y.T., Gao, J.H., 2021).

Research Objectives

1. To design and develop innovative therapeutic environments that incorporate multisensory interaction and virtual reality, with a focus on optimizing the potential for emotional wellness.
2. Consider factors such as sensory stimuli, user experience, and spatial design to create immersive and engaging environments.

Research Methodology

Research designs. With field research, interviews, and questionnaires, the result will be edited in digital model. The space is simulated by using graphics software, and the space is rendered with materials to simulate the real effect through the computer model. The first floor of the building was selected for a detailed dimensional study and a CAD sketch of the interior space was made. SketchUp was used to build a model for 3D spatial analysis and learned about the materials and structure of the building from the property owner.

Research sample. The user portrait is locked by field survey, observation method, and questionnaires. Four hundred and forty white-collar workers aged 24 to 27 in Shanghai responded to the questionnaire (414 valid questionnaires). All of the testers have stable careers, good communication skills, and right working attitude. Most respondents were female (237 people, or 57.25%). Compared with males (177 people, or 42.86%). In this research, we would like to know how arts can help them to make a better life in Shanghai.

Research tools. This research used a mixed-methods approach to finish the design process. Focus group research, interviews, and the digital model were used for the Qualitative analysis.

Data collection. About the Quantitative analysis part, this research collected 414/440 online data for analysis of the mental health of China's young employees.

Data analysis. Research Methods this scale was first proposed by American psychologist Renzi. Likert scale in 1932. A Likert scale is usually an ordered list and asks participants to express their feelings about each statement. Attitude The five-point Likert scale is one format. These this usually has multiple levels) using a 1 -5 scale to show people's views on each indicator. 0 means strongly disagree, 1 means disagree, 2 means strongly disagree, 3 means neutral, 4 means agree and 5 means strongly agree. The questionnaire data was collected and analyzed using the "Questionnaire Star" tool, and the reasons for negative emotions and ways to relieve them were summarized in an Excel sheet. The analysis results will be used for the layout and kinetic positioning of the space design.

Firstly, Participation and observation were used at the beginning of the research: based on the design requirements to collect information for selecting the experimental variable; it needs an entire quiet environment. This research will record the information with paper, pen, and recording tools. It mainly focuses on collecting the subject's data from all perspectives. to make sure the interviewer has a fit career, both healthily with body and mind; at least a BA degree and the age of Twenty-four to Twenty-seven, which need to fit the requirement of the requirements also. The next step is an in-depth interview. Now the people will be limited to the selected four people; it will take more than two hours for individual consultation. Focus group discussion: For further research, we are going to the group discussion part. The group discussion process will be twenty people in total. It will work as a workshop within two hours. It can be a review once a week for the four data groups. The workshop can be limited to one month.

Table 1. Questionnaire variables and dimension coding

Variable	Dimension	Code	Code	Number	Number	Total
Personal Information	Economic level	EI	EI1	1	5	
	Personal Interview	PI	PI1-4	4		
Working Environment	Working Stress	WS	WS1-10	10	16	
	Stress Relies	SR	SR1-6	6		
Self-Evaluation	Expert Questionnaire	EQ	EQ1-3	3	8	53
	User Interview	UI	UI1-5	5		
Design Language	Space Material	DL	DL1-2	2	11	
	Space Function	SF	SF1-9	9		
Final outcome	Outcome Evaluation	OE	OE1	1-11	12	
	Improve Future	IF	IF1	1		

Secondly, the thematic analysis will be set: As shown in Table 1, the design test variable for design will be found. before the online interview is sent, the expert group will review all the materials (questionnaires). After that, small group discussion will be used. The research group will be limited to four people. The depth discussion with the topic to find the suitable fabric, color, smell, and sound for designing and testing, recording the interview process, and taking notes and photos, using the picture to show the outcome.

Table 2. Satisfied Table Of The Final Outcome (414/440)

Question	Option	Frequency	Percentage
Healing Feeling	1	13	3.15%
	2	31	7.56%
	3	62	14.92%
	4	16	3.78%
	5	85	20.59%
Color Preference	1	16	3.78%
	2	38	9.24%
	3	95	22.9%
	4	110	26.47%
	5	156	37.61%
Stress Reduction Effect	1	5	1.26%
	2	30	7.14%
	3	77	18.7%
	4	130	31.51%
	5	171	41.39%
Plant Healing Effect	1	17	4.2%
	2	39	9.45%
	3	90	21.85%
	4	113	27.31%
	5	154	37.18%

In the end, the quantitative research details will be concerned, all the information will be delivered with numbers. As shown in Table 2, we will use statistics analysis, and then we will use a statistical hypothesis to test the product. The professional group of three people will be calculated separately.

Research Conceptual Framework

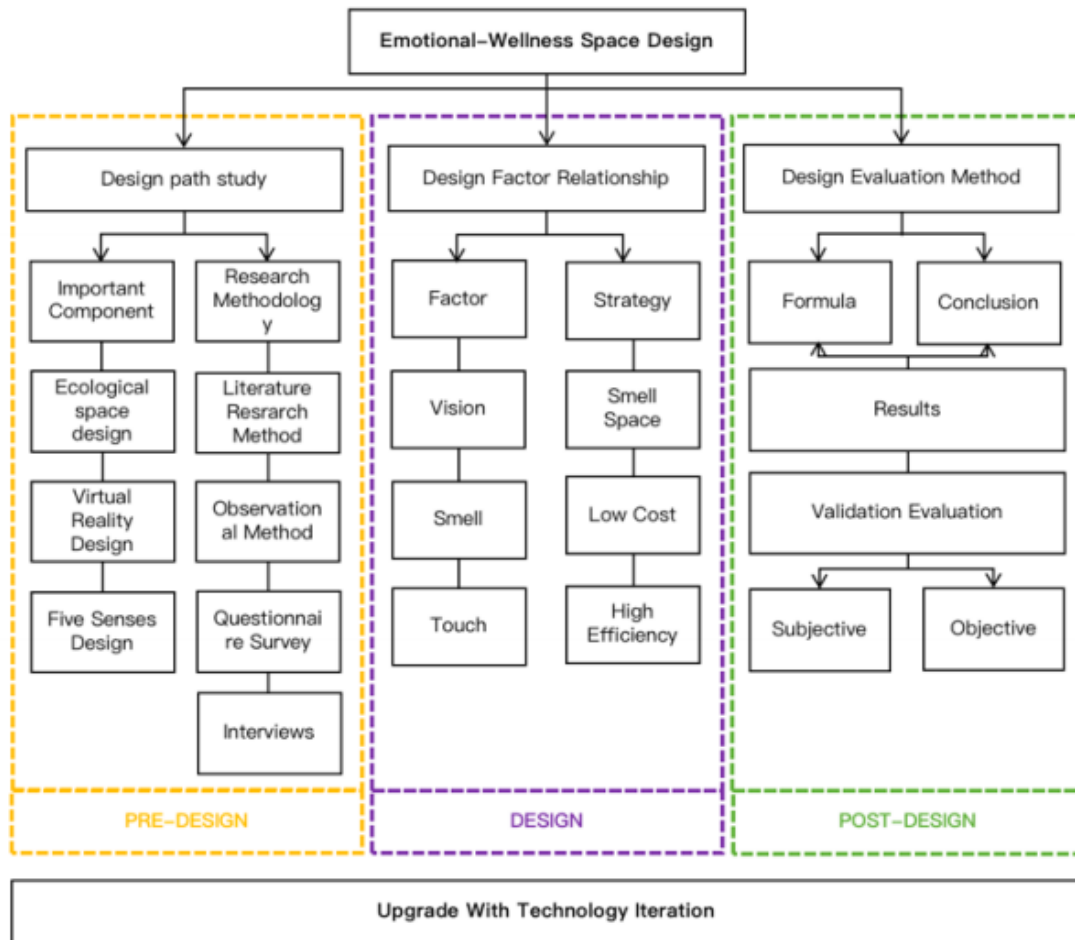


Figure 2. The design framework

Source: Author's own work

Research Results

To Design and develop innovative therapeutic environments that incorporate multisensory interaction and virtual reality, with a focus on optimizing the potential for emotional wellness. The Emotional Healing Space Design of Industry Space Renewal In Shanghai has been researched and the meditation space has been designed.

A survey around the building site and selected office workers in the neighborhood for interviews. Figure 3 shows the daily situation of office workers. According to the results of the interviews, 40% of people are affected by negative emotions daily. Nearly 70% of people facing psychological problems would choose to solve them by themselves, and only a minority would choose to go to a doctor because of cost problems. And about the place to relieve emotions half of them can't answer the specific space related to it.



Figure 3. Environmental psychology

Source: Author's own work

It is to provide a design possibility for a public healing space, The building is located at 98 Yanping Road, in the Jing'an district of Shanghai. The project site is a rectangular building body in the northwest direction, with the entrance in the southwest. It is located inside No.98 Creative Park, and it is necessary to enter the gate of the park through a narrow walkway to reach the vicinity of the site, based on environmental psychology to promote the healing process for office workers to relieve their emotions. Three public spaces are set up in the project: the courtyard at the entrance, the central space, and the lecture area. These three parts can effectively communicate with the group and break the sense of isolation.

Yoga and meditation were chosen as the main functions, with an open courtyard at the side of the entrance as a waiting area and the main entrance facing the courtyard next to the side walkway. As shown in Figure 4, the front desk, negotiation room, and shoe changing area are set up at the entrance. Inside, there are different sizes of yoga rooms and meditation rooms.



Figure 4. Front desk and shoes changing area

Source: Author's own work

The center is a public area for group yoga, meditation, and conversation. In the front of the center, there is a lecture area for psychological lectures. To the side are changing rooms and restrooms. As shown in Figure 5, the materials chosen are wooden floor as the floor of the yoga room, wooden decorations, and wooden supports. Cotton linen exists as decoration and as part of the furniture material. Stones are decorated on the courtyard floor and microcement as the wall. The lighting is mainly natural lighting and warm artificial light with a mixture of both.

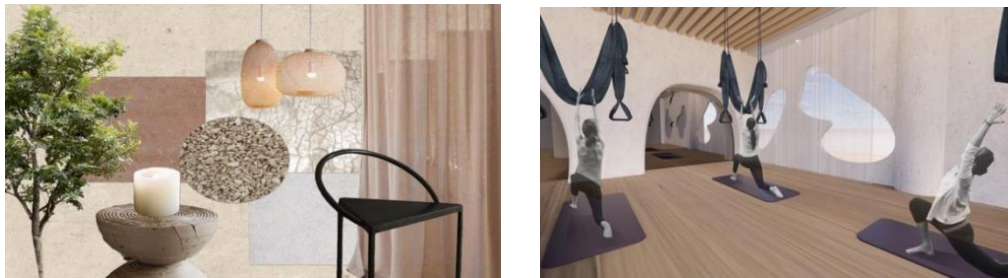


Figure 5. Material board and Yoga room
Source: Author's own work

The purpose of the building is to create a space for stress reduction meditation, combining Ecology and a restorative environment from the user's point of view and, through data research, extracting the user's demand for decompression space and design possibilities. In addition, the author tries to create spatial strategies that increase the effect of stress reduction, create a natural spatial atmosphere, and encourage the user's activities and communication. Stress relief meditation space provides a variety of activities and functions to meet users' higher levels of physical and psychological needs. It breaks with the traditional meditation space and incorporates the concept of Ecology and restorative environment to increase communication with the natural space. The design has many levels of open space, such as shared space, atrium, semi-open yoga, and private meditation. It promotes communication and connection between users in the space. The space provides both concealment and openness, and the setting of the double-height space also increases the user's interest in exploring the space. This project connects the user's stress reduction behavior, activities, and spatial penetration. The emergence of the space for decompression meditation is to save more mental illness patients and highly pressured people in society. It attempts to increase the space's spiritual relief and psychological decompression experience for the user and enhance the user's sense of belonging. It redefines a new stress-relieving space model, helping people escape the city's hustle and bustle, enjoy natural calmness, and create a harmonious community environment.

Discussion

To Design and develop innovative therapeutic environments that incorporate multisensory interaction and virtual reality, with a focus on optimizing the potential for emotional wellness. These elements are important to be included in the design approach: soft color, Natural light, natural material, and the fragrance factor by plants.

1. The results found that the healing space needs a soft and warm, relaxing and calm space atmosphere, which requires the use of three shades of colors to match and find a balance in it to use in the design project. Because Interior lighting is based on warm and cold light, the intensity of the space atmosphere corresponds to different shades, and different light intensities will also bring different degrees of impact on the mood of people and have been used in different rooms.

2. The results found that Natural light is neutral light, which is a natural light source shown by the sun according to different times, seasons, and weather. Because of its properties of kindness, warmth, and softness, it is the type of light most needed for healing spaces (Yang, Y.H., 2019).

3. The results found that Material has a unique personality, conveying a feeling of either hardness or softness and the embodiment of surface texture is the sensory experience that people can directly contact (Yang, Y.H., 2019). Because the texture of the wood material after treatment brings a natural and soft feeling to the indoor space, and its kind color is selectable, its practicality is strong and corresponds to the yoga place mostly uses wood material as flooring because of the texture of the wood.


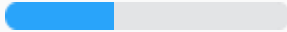
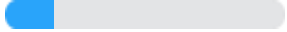
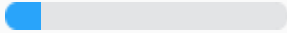
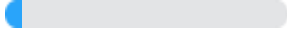
4. The results found that green in color as a natural color is beneficial to all human senses, vegetation is often found in indoor spaces as decoration to increase the comfort of the space. Because by controlling the number and placement time of green plants, the temperature, humidity, and bacteria count of indoor space can be significantly improved. corresponds to placing green plants indoors can also reduce noise, release oxygen, and promote indoor air circulation, and the fragrance factor emitted by plants can also make people feel comfortable (Yang, Y.H., 2019).

Recommendations

1. Improve in the future.

According to the opinions of the participants, Table 3 shows that color and material are the parts that need to be improved the most, and there is also room for improvement in space layout and moving line planning. The need for scaling improvements is relatively small. Among the parts that can be improved, color is the aspect that needs to be improved the most, accounting for 38.16% (or 158 people). This could mean that those who took part in the survey felt that color choices had a lot of room for improvement in design. Material is the second part to be improved, accounting for 23.19% (or 96 people). This suggests that those who participated in the survey believe that material choice also has room for improvement in design. Space and moving lines, which account for 18.84% (or 78 people) and 12.8% (or 53 people) respectively, are also considered to be the parts that need to be upgraded. This could mean that those who participated in the survey felt that space layout and movement planning could be improved in the design. Scale is the least needed, accounting for only 7% (or 29 people). This may mean that respondents are satisfied with the choice of scale and think that there is less room for improvement in the design.

Table 3. Improve in the future.

Option	No.	Percentage
Material	96	 23.19%
Color	158	 38.16%
Space	78	 18.84%
Circulation	53	 12.8%
VR space	29	 7%
Valid No.	414	Total No. : 440

2. Summary of the research

According to the research of environmental psychology, in future research, the overall space will be designed by extracting the factors that can positively influence people in light, color, material, vegetation, sound, and space, to create a positive emotion of pleasure, happiness, and relaxation for office workers. At present, there are still some shortcomings, and the possibility of setting up detailed nodes and promoting them in office buildings or business parks still needs to be investigated and analyzed for the market. The public healing space presents a new form of infrastructure for mental health facilities in Shanghai and contributes to making the public pay more attention to mental health issues.

3. Limitations of the research

Virtual reality psychotherapy is a form of technology that is changing traditional psychotherapy. It should be paired with other technologies like biofeedback, recognition, knowledge reconstruction, and medicine. Increasing tactile, olfactory, and other cues should be considered when developing VR scenes; Improving the resolution and update speed of VR devices is necessary to lessen the effects of motion sickness and enhance the user experience and credibility of VR scenes; Psychotherapy in virtual reality necessitates. more uniform conditions to lower recurrence, we must increase the number of long-term follow-up studies and raise the sample size. Furthermore, more must be done. China is still in the early phases of its research endeavors. There is hardly much literature available, only one research approach is used, and there are few directions.

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