Research on the Design Strategy of Virtual Healing Space Based on User Emotional Needs

Han Chen[a,*], Yixin Shi[b], Xuezi Li[c]

School of Design, Art and Media, Nanjing University of Science and Technology, Nanjing, China

[a]1127875730@qq.com, [b]1721027523@qq.com, [c]745474823@qq.com

Abstract. Under the fierce competition and pressure of today's society, stress and anxiety seem to be part of our daily life. However, traditional offline healing environmental resources are limited, which limits the comprehensive recovery of patients with psychological diseases, and also hinders their in -depth understanding of their psychological state. In order to break this limit, this article takes the limitations of traditional healing as the starting point. Through in -depth research on existing literature, it confirms the potential of virtual reality technology in assisting the treatment of psychological diseases. In addition, combined with the evaluation of user emotional needs in combination with questionnaire surveys and Premo methods, this article further explores the design needs of psychotherapy space, and proposed three design strategies based on this.

Keywords: prEmo mood card method; Virtual healing; Healing environment; Healing space design

1 Introduction and Background

According to the 'National Psychological Health Report' survey, about 26.2% of people in my country are facing mental health problems, with employees in the IT industry being affected at a rate as high as 40%. Among white-collar groups, anxiety accounts for 78.9%, far exceeding the national average. Among children aged 6 to 16, the overall prevalence of mental disorders is 17.5%, which includes attention deficit hyperactivity disorder at over 10.2%, anxiety disorders at 4.7%, depressive disorders at 3.0%, and other disorders at 4.7%.

Nowadays, people's demand for health care is no longer limited to the treatment of diseases; it is more concerned with the healing of psychological and mental aspects. As a result, there is an evolution from treatment to healing. Treatment usually refers to restoring physical health through physical means, while healing focuses more on psychological repair, aiming to reduce mental stress, enhance individual self-recovery abilities, and achieve internal self-healing. However, traditional offline consulting services have difficulty meeting the increasingly growing consulting needs and patient behavior habits. There are significant imbalances between domestic psychotherapy resources and the number of patients. Therefore, more and more people have begun to turn to

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online platforms to seek psychological counseling. However, most of the existing online services are limited to providing preliminary testing tools, such as consultation dialogues or form assessments; these service modes are relatively singular and lack continuous healing support, affecting the effectiveness and sustainability of emotional healing.

2 The Evolution of Virtual Reality Technology and Its Application in the Healing Field

2.1 Evolution of Virtual Reality Technology

In the 1960s, scientists began studying computer graphics and human-computer interaction technologies, providing important technical support for the development of virtual reality. In 1965, Ivan Sutherland first proposed the concept of "virtual reality" in his doctoral thesis, "The Ultimate Display." Over time, virtual reality technology has gone through the process from concept germination to technological accumulation. After the 1980s, with significant advances in computer and sensing technology, the application areas of virtual reality technology began to expand gradually. Scientists started to apply this emerging technology to fields such as entertainment, education, and medicine. Concurrently, some start-ups began investing in the research and commercialization of VR technology.

After the turn of the century, with improvements in computer processing power and the popularization of the mobile internet, virtual reality technology ushered in an explosion of growth. Major technology companies have been actively deploying in the virtual reality sector, launching a series of influential products and services. Meanwhile, the application areas of virtual reality technology are also continuously expanding, from the initial fields of entertainment and education to industrial, medical, and military domains.

2.2 Application of Virtual Reality Technology in the Field of Healing

Initially, virtual reality technology has garnered widespread attention and research in the field of psychology, attributed to its excellent immersion, creativity, and interactive capabilities. Numerous scholars from both domestic and international backgrounds are actively exploring the vast potential of virtual reality in psychological applications. The application of virtual reality in psychology is also maturing [1]. With the ongoing development of psychological technology in recent years, virtual reality has been integrated into the field of clinical healing [2].

David Beach, a professor of architecture at Drury University in Missouri, skillfully merged art and architectural design to create a VR virtual healing space experience, allowing children who are long-term hospitalized to 'reach' various parts of the world. Dr. Ned Sahin has developed wearable device applications for patients with psychological disorders. One of the application modules is specifically designed for autism pa-

tients, simulating the psychological challenges they face when entering a new environment, effectively reducing their anxiety and loneliness. In PTSD therapy, a research team utilized virtual reality technology to design virtual healing spaces and games for veterans, as well as an open space surrounded by a jungle. The patients' clinician-rated PTSD decreased by 34%, and self-rated PTSD scores dropped by 45%. Virtual reality technology helps soldiers re-experience environments related to their trauma, thereby overcoming the natural tendency to avoid such situations [3].

3 Research Methods and Data Analysis

3.1 User Research and Analysis

According to survey results, 73.6% of urban residents in China are in a state of mental sub-health, with 16.1% of urban residents experiencing psychological problems. Common issues include relationship stress, emotional stress, and personal growth pressure. Emotional stress, such as anxiety, depression, and mania, accounts for 44 percent and is a primary cause of anxiety and depression. The purpose of this survey is to explore the current state of modern groups under high stress and anxiety, emotional factors, problems and difficulties in offline diagnosis and treatment, and the current state of the medical market. It aims to understand users' willingness and expectations to use psychological diagnostic tools, to obtain their views and suggestions on functional requirements, and to provide a realistic basis and support for subsequent design.

The market's current situation investigation is conducted to understand contemporary people's awareness and emphasis on mental diseases like anxiety, as well as their actions and mentality when facing stress and anxiety. The questionnaire is designed for this investigation. As shown in the figure below (Table 1), the questionnaire's questions are divided into three categories: the experience of anxiety and pressure, the measures taken in response to anxiety and pressure, and the expected methods to address stress problems.

Table 1. Questionnaire design

Problem Classification	Specific Problem	Option
Emergency and stress	1. What is the frequency of stress and anxiety?	A very frequent; B often; C usually; D occasionally;E never
	2. What are the reasons for your anxiety or stress?	A Emotional; B Interpersonal Communication; C Learning; D Future Planning; E others
Measures when facing anxiety and stress	1. When facing anxiety or stress, which adjustment methods will be adopted	A relaxing;B Entertainment; C to talk about; D movement; E professional consultation; F does not solve

	2. Whether your solution is effective	A yes; B no
	3. Select face -to -face problems to solve or seek help for others	A yourself solves; B to seek help from others
	4. Reasons to refuse to talk to the outside world	A is worried about others' opinions or will be excessive attention; B talked about not being understood or ineffective; C other others
	5. Is willing to choose a professional psychological consulting agency in society	A yes; B no
	6.Reason for rejection of professional psychological counseling	A cost is too high; B without sufficient time to seek medical treatment; C worry about others' opinions; D does not understand the way to seek
Looking forward to the method of solving stress problems	1.What are the psychological service methods you expect or are willing to accept	A Remote Consultation Treatment; B immersive treatment environment; C Intelligent monitoring device; D Big Data Psychological Analysis; E Emotional Interactive Robot f others

In this study, 160 valid questionnaires were distributed and collected. Survey results show that more than 80% of young people often or occasionally feel pressure and anxiety, mainly due to confusion about personal development and life planning, followed by academic, interpersonal, and emotional problems. Appearance anxiety also accounts for a considerable proportion. Faced with these issues, most people choose rest, recreation, or sports for relief; a minority will seek out friends and family to talk, while less than 10% seek professional psychological services. Although 39% of people improve through self-regulation, most cannot fundamentally solve the problem with self-regulation alone.

Additionally, 58 percent of people tend to self-worry, primarily because they fear not being understood and refuse to burden others with their concerns. This indicates that despite the need, there is a lack of suitable professional channels to provide private and effective help. When confronted with professional psychological services, many

people reject them due to concerns about discrimination, uneven service quality, high costs, and lengthy treatment durations.

However, people are open to efficient and intelligent diagnostic and treatment methods, such as remote psychological diagnosis, immersive technologies, intelligent monitoring products, big data psychoanalysis, and emotional robots. They believe these technical methods can solve problems more comprehensively and conveniently, reduce costs and time, alleviate treatment pressure, and encourage more individuals to try and actively cooperate with treatment.

3.2 Experimental Evaluation of Healing Elements of Premo

In this study, healing environment elements are divided into 5 categories: a. Comfortable sounds (natural soundtracks, soothing music, etc.); b. Natural scenes (beaches, forests, streams, fields, etc.); c. Social scenes (coffee chats, conversations in the park, etc.); d. Life scenes (supermarket shopping, taking a bath, etc.); e. Entertainment scenes (fun puzzles, entertainment games, etc.) To understand whether different elements have a positive impact on users' psychological emotions and which elements have a higher positive impact, it is necessary to analyze and evaluate them.

The prEmo method is used to measure 14 types of emotional states triggered by product design, including 7 positive emotions and 7 negative emotions (refer to Figure 1). Subjects communicate their inner emotional experiences by choosing emotional cards that match their current emotions. Since participants may lack sufficient vocabulary to accurately describe their feelings, the PrEmo method effectively gathers more realistic and nuanced emotional feedback through this more visual approach.

Fig. 1. premo mood card. (Premo - Emotion Studio).

3.3 Experimental and Data Analysis

In this experiment, 10 volunteers were recruited from Nanjing University of Science and Technology to serve as subjects. To avoid systematic errors caused by irrelevant factors such as gender, academic background, and experimental order, subjects were evenly assigned to each combination scheme during the experiment to ensure an equal number of subjects in each scheme. A balanced gender ratio was maintained.

At the beginning of the experiment, participants were asked to record their initial emotions. The emotional state under each experimental condition was documented

through scene photographs and videos, and the emotional scores were ultimately calculated (refer to Figure 2).

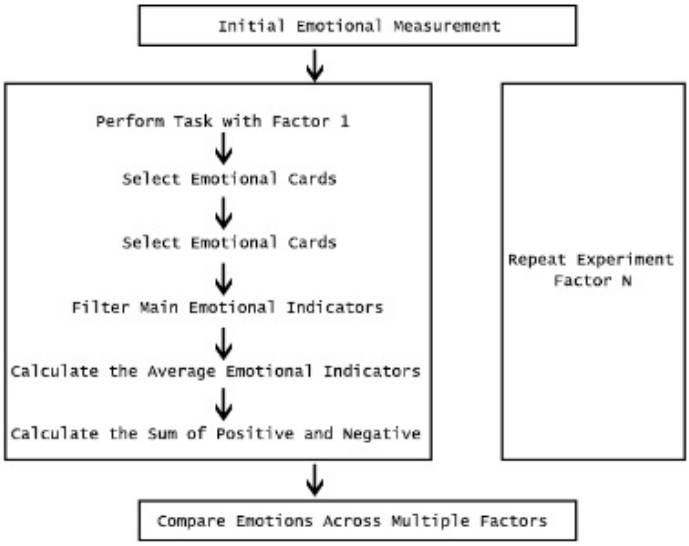

Fig. 2. Flow chart of PrEmo experiment

The calculation method assumes that in a single-factor test, if the total number of emotions generated by a person is n, and the ranking of a single emotion within the total count of emotions is m, then the proportion value of a single emotion indicator in the total emotion indicator is (N - m + 1) / n. A scale with the highest score of 10 was used for evaluation: the sentiment value of a single factor = 10 × (N - m + 1) / n.

Table 2. Single factor A assessment score calculation table

Experiment	Joy	Admiration	Pride	Hope	Satisfaction	fascinaition	desire	Sadness	Fear	Shame	Anxiety	Anger	Disgust	Boredom
Experiment1	6.25	2.5	5	10	7.5	5.75	8	0	1.25	0	8.75	0	3.75	1
Experiment2	7	2	5	10	8	8	7.8	1	3	1	9	6	4	2
Experiment3	5.25	2.8	5.8	9.8	8.8	7.25	9	1	4.1	0.25	8	2.95	4.5	0.2
Experiment4	5.1	3.45	5.85	9.3	8.4	9	8.15	0.5	4.2	1.5	7.55	3.25	5.75	0.45
Experiment5	5.2	3.2	6	9.6	8.9	8.3	8.6	0.7	3.75	0	6.8	1.5	3.6	0.1
Experiment6	5	3.6	6.2	9	9	9.1	7.5	1	5	2	9	3	5.5	0.3
Experiment7	4.9	2.9	5.5	9.8	7.8	8.5	7.25	0.75	3.2	1	6.2	0	4.3	0.5
Experiment8	5.25	4	6	9.6	8.9	8.5	6.8	0.5	6	0.2	5.55	0.5	3.9	0
Experiment9	5.1	3.85	5.1	9.6	7.7	9	8.5	0.25	5.3	0.45	6.25	4	6.1	0
Experiment10	5.15	3.4	6.25	10	10	8.2	8.2	1	5	0	5.4	5.5	4.4	0.25
Average	5.42	3.17	5.67	9.67	8.5	8.16	7.98	0.67	4.08	0.64	7.25	2.67	4.58	0.48

Table 3. Single factor B assessment score calculation table

Experiment	Joy	Admiration	Pride	Hope	Satisfaction	fascinaition	desire	Sadness	Fear	Shame	Anxiety	Anger	Disgust	Boredom
Experiment1	4.8	3	4	10	8.25	7	6.2	5	4.55	0	7	0	4	0
Experiment2	5	5	5.2	8	8.2	10	6.5	2	3.5	1	5	6	3.5	1
Experiment3	5.8	4.5	5.5	7	7.8	4.5	8.1	5	4.1	0.5	5.5	1.5	2.75	0.8
Experiment4	8	6	4.8	5.5	9	6.2	10	1	4	1.2	6	2.25	5	0.45
Experiment5	6.8	7	4.5	7.4	8.2	5.4	6	0.25	3.25	0	4.55	1.1	3	0.4
Experiment6	7	7.5	4	5	8	7.6	7.2	4	1	1	5.35	2	4.2	0.45
Experiment7	7.5	6.8	7.2	6.8	5.7	6.4	8.5	0.55	2.5	1	4	0	3.4	0.5
Experiment8	6.5	6.2	5	7	6.55	7.5	7.65	2	3.25	0.5	3.5	0.55	3	2
Experiment9	7.15	5.5	4.25	6.5	5.5	7.25	8.25	0.25	4.55	0.4	4	2.5	4.5	0
Experiment10	7.55	5	5.15	6.4	7	8.25	8.4	3.55	6	0.5	3.4	0	2.45	0.2
Average	6.61	5.65	4.96	6.96	7.42	7.01	7.68	2.36	3.67	0.61	4.83	1.59	3.58	0.58

Table 4. Single factor C assessment score calculation table

Experiment	Joy	Admiration	Pride	Hope	Satisfaction	fascinaition	desire	Sadness	Fear	Shame	Anxiety	Anger	Disgust	Boredom
Experiment1	8	5	8	10	8	9	8	0	1	0.25	3	0.2	0.5	1
Experiment2	9	6.2	8.7	7	7.6	8	7.8	1	3	1	2	2.4	1	2
Experiment3	10	6.4	7.8	8.9	10	7.25	9	2	2.2	0.25	4	1	1	2.25
Experiment4	8.55	7	4.7	9.2	8.6	9	6.8	1.5	3	0.8	3.5	2	0.5	2
Experiment5	8	4.8	8.7	8	7.9	8.3	7.8	3	4	1	4.5	0.2	0.3	2.25
Experiment6	9	7.2	5.25	5	6	9.1	6.8	2	5.5	2	6	1.8	2	4
Experiment7	6	6.8	6.8	6.2	6.2	8.5	5.6	2	5	2.2	5.5	0.2	3	5
Experiment8	10	6.5	7.2	7.9	8.9	8.5	9	1.8	0	0	0	0.2	0.15	0.5
Experiment9	6.75	5.75	6.45	5.4	6	9	3.25	6	8	5	8	2	4.5	8
Experiment10	9	6.25	7.4	7.8	8	8.25	8.85	1.6	0.2	0	0.2	0.5	0.25	1
Average	8.43	6.19	7.1	7.54	7.72	9.39	7.29	2.09	3.19	1.25	3.67	1.05	1.32	2.8

Table 5. Single factor D assessment score calculation table

Experiment	Joy	Admiration	Pride	Hope	Satisfaction	fascinaition	desire	Sadness	Fear	Shame	Anxiety	Anger	Disgust	Boredom
Experiment1	10	3	6	8	8	6	8	0	1	0.4	3	0	0	4
Experiment2	9	2	7	7	7.6	7.2	7.8	0.5	2	0.75	2	2	1	3
Experiment3	10	5	5.5	8.2	7.35	7.25	8.6	1.5	1.5	0.25	1.75	1	1	2.5
Experiment4	9	1.5	5	7.6	8.6	9	7	1.25	0	0	2.5	1.5	0.6	4
Experiment5	10	2	4.7	7.35	7.2	8	7.8	0	2.25	1	4.5	0.5	0.25	1.25
Experiment6	9	1.75	5.25	6	6	7.5	7.4	0.5	1.75	0.75	6	2	2.25	3
Experiment7	9	2	5.15	6.2	6.2	8.15	8	1.75	1	1	2.5	0	2	4
Experiment8	10	1.55	4.85	6.15	8.5	7	9	1.5	2.3	0	1.55	0	0	0.5
Experiment9	10	3	4	5	6.35	6.8	8.8	2	1.4	2	3	1.5	2	3.25
Experiment10	9	2	4.15	6.5	8.2	8.2	8.8	1.4	0.6	1.15	2	0.5	1	1
Average	9.5	2.38	5.16	6.8	7.4	7.51	8.12	1.04	1.38	0.73	2.28	0.9	1.01	2.65

Table 6. Single factor E assessment score calculation table

Experiment	Joy	Admiration	Pride	Hope	Satisfaction	fascinaition	desire	Sadness	Fear	Shame	Anxiety	Anger	Disgust	Boredom
Experiment1	10	8	9	10	8	8.5	10	0.5	1	0.25	2.5	0.2	0	0
Experiment2	9	9	8.6	7	7	6.5	9	2	2.5	1	1	0.2	0.4	0.25
Experiment3	10	8	7.45	8.5	8.5	8.6	8	1.25	1.8	0.25	2	0.5	0.7	0.4
Experiment4	10	7.5	7.85	9.2	7.8	7.85	6.8	0.75	0.5	0.8	2.5	0.8	1	1.25
Experiment5	8.5	8.2	9	8.8	8.6	7.45	7.5	2	2	1	2.8	0.15	0.5	0.7
Experiment6	9	8.6	8.5	9	7.8	7.2	6.9	1	3.5	2	1	0.65	0.5	0
Experiment7	9	7.8	8.8	8.5	8.4	6.9	7.5	1.5	2.45	1.8	3	0.25	0.25	0
Experiment8	10	8	7.55	9.2	7.8	7.4	8.8	1.4	1.8	0	4	0.2	0.1	0.2
Experiment9	8	7.75	6.45	8	6	6.5	9	2	2.2	2	4	1.15	0.9	0.1
Experiment10	9.5	8.25	6.8	8.2	6.5	7	7.5	1.2	0.45	0.2	3	0.9	0.55	0.8
Average	9.3	8.11	8	8.64	7.64	7.89	8.1	1.36	1.82	0.93	2.58	0.5	0.49	0.37

In the virtual healing space (refer to Table 2), the total value of positive emotions that can stimulate the subjects is Q1 = 5.42 + 3.17 + 5.67 + 9.67 + 8.5 + 8.16 + 7.98=43.15Q1 = 5.42 + 3.17 + 5.67 + 9.67 + 8.5 + 8.16 + 7.98 = 43.15; the gross value of negative emotions is Q2 = 0.67 + 4.08 + 0.64 + 7.25 + 2.67 + 4.58 + 0.48 = 20.37Q2 = 0.67 + 4.08 + 0.64 + 7.25 + 2.67 + 4.58 + 0.48 = 20.37. The total value of positive emotions is significantly greater than that of negative emotions; For the virtual natural scene (refer to Table 3), the total value of positive emotions is 46.29, and the total value of negative emotions is 17.22, with the former being significantly greater than the latter; In the virtual social scene (refer to Table 4), the total value of positive emotions was 53.66, and the total value of negative emotions was 15.37, again showing the former to be significantly greater; For the virtual life scenario (refer to Table 5), the total value of positive emotions was 46.87, and the total value of negative emotions was 9.99, with positive emotions being significantly more prevalent; In the virtual entertainment scene (refer to Table 6), the total value of positive emotions was 57.68, and the total value of negative emotions was 8.05, indicating a substantial predominance of positive emotions; It can be observed that the textual description of positive emotions positively impacts the stimulation of users' positive emotional responses.

This study employs an intra-group experimental method, where each subject is required to test the relevant factors examined in this experiment. The final evaluation will comprehensively calculate the results from all participants, allowing for horizontal comparison of different factors within the same experiment.

Due to the differences in emotions generated, it is necessary to refine the emotional indicators that express user emotions in experiments with varying factors. Subjects generate 14 types of emotions during the experiment.

Mood sets corresponding to different factors are obtained through statistical analysis. According to the statistical analysis of each subject's emotional value data, the corresponding mean emotional value statistics for all relevant factors are derived, as shown in the figure below (refer to Table 7).

Table 7. Each factor evaluation score calculation table

Factor	Joy	Admiration	Pride	Hope	Satisfaction	Fascinaiton	desire	Sadness	Fear	Shame	Anxiety	Anger	Disgust	Boredom
A	5.42	3.17	5.67	9.67	8.5	8.16	7.98	0.67	4.08	0.64	7.25	2.67	4.58	0.48
Factor	Joy	Admiration	Pride	Hope	Satisfaction	Fascinaiton	desire	Sadness	Fear	Shame	Anxiety	Anger	Disgust	Boredom
B	6.61	5.65	4.96	6.96	7.42	7.01	7.68	2.36	3.67	0.61	4.83	1.59	3.58	0.58
Factor	Joy	Admiration	Pride	Hope	Satisfaction	Fascinaiton	desire	Sadness	Fear	Shame	Anxiety	Anger	Disgust	Boredom
C	8.43	6.19	7.1	7.54	7.72	7	1	3	5	2	3.67	1.05	1.32	2.8
Factor	Joy	Admiration	Pride	Hope	Satisfaction	Fascinaiton	desire	Sadness	Fear	Shame	Anxiety	Anger	Disgust	Boredom
D	9.5	2.38	5.16	6.8	7.4	7.51	8.12	1.04	1.38	0.73	2.28	0.9	1.01	2.65
Factor	Joy	Admiration	Pride	Hope	Satisfaction	Fascinaiton	desire	Sadness	Fear	Shame	Anxiety	Anger	Disgust	Boredom
E	9.3	8.11	8	8.64	7.64	7.89	8.1	1.36	1.82	0.93	2.58	0.5	0.49	0.37

After comparing with the control state, we found that all factors positively affected the enhancement of positive emotions and could alleviate negative emotions to a certain extent. Specifically, Factor A (appropriate sound) is particularly strongly associated with anticipation and relaxation, helping to enhance users' sense of anticipation for the content. Factor B (natural scene) is more closely related to satisfaction and hope; however, natural scenes are divided into sunny weather and rainy or snowy weather, with the latter potentially increasing users' irritability, thus requiring careful selection. Factor C (social scene) is also closely related to anticipation and relaxation, but for users with social anxiety or stress, the negative effects of pessimism, such as boredom and anxiety, should be carefully monitored. Factor D (life scenario) had a weaker impact on users' positive emotions compared to other factors, showing only a slight difference from the control state. Factor E (Entertainment scene) can evoke people's imagination and vitality through virtual simulation, providing a sense of relaxation and liberation. Visual virtual entertainment scenes can maximize the emotional impact on users and stimulate more positive emotions.

Therefore, in designs involving user psychology and emotions, focusing on natural environments can effectively restore attention [4]. At the same time, prioritizing entertainment scenarios can achieve design goals while reducing unnecessary development costs. Considering the user's emotional preferences for figurative, gaming, and immersive scenes, selecting emotional scenarios with different functions for design and development can better meet the user's needs for virtual emotional mapping. Additionally, in the software system design, incorporating the mode of virtual scenes to represent emotional states can enhance the user experience. Furthermore, it is essential to make comprehensive use of natural scenes, social scenes, background music, etc., allowing for the design of the entire product from multiple different perspectives.

4 Design Strategy of Virtual Healing Environment

4.1 Personalized Customized Design Strategies for Virtual Healing Space

Through in-depth understanding of user needs, user research is conducted, including interviews, questionnaires, and other methods, to gain an in-depth understanding of users' individual needs and preferences, providing a basis for design. Looking to the future, with the aid of artificial intelligence technology, virtual emotional products will integrate more advanced emotion recognition functions, able to accurately capture and understand the user's emotional state. Such intelligent systems will be able to provide customized responses, such as recommending virtual scenes or music that elicit emotional resonance from the user, thus achieving a soothing effect. Users will be able to customize the content and form of virtual emotional products according to their personal emotional tendencies and aesthetic preferences. This personalized customization is not limited to visual and auditory elements; it will also extend to dimensions such as interactive methods and storylines to meet users' deeper emotional experience needs. This highly customized service not only allows consumers to gain deeper emotional satisfaction but also significantly enhances their engagement in the emotional consumption process.

4.2 Deep Immersive Design Strategy for Virtual Healing Space

Through AR and VR technology, virtual emotional products can offer a more immersive experience. Users can enter a new virtual environment and experience a variety of emotions and scenes. For example, when users feel anxious, the AR device can create an art healing and sinking space according to the user's personal preference. From the perspective of design psychology, the sinking space allows us to be enveloped by the earth, thereby generating a sense of psychological security, privacy, and tranquility. It effectively relieves psychological pressure and promotes the physical and mental health of users. For users with various phobias, AR can create an experiential stimulation space and incorporate a rich game exploration mechanism. By mobilizing emotions, scene integration, and scenario interconnection, it helps users alleviate negative emotions, improve positive emotions, and brings users to a new experience. Compared with traditional 'virtual emotional products,' this AR-based artistic healing experience offers immersion and privacy, making it easier for patients to focus on therapeutic scenes and reduce interference in actual treatment. This immersive experience assists patients in facing situations that typically trigger avoidance behaviors [5].

4.3 Social Design Strategy of Virtual Healing Space

The continuous maturity of deep cameras and inside-out spatial positioning technology will greatly enrich the character imagery and scene design within social-based virtual healing spaces [6]. Considering users' emotional tendencies towards figurative, gaming, and immersive experiences, we are creating a virtual environment that supports multi-user interactions, allowing users to communicate and interact in a shared virtual space,

and to participate together in healing activities such as meditation, yoga, and psychological support groups. In the design of social spaces, a centripetal spatial layout is adopted. This design aims to promote gathering and communication among people. In contrast to centripetal spaces, centrifugal spaces tend to disperse crowds. The circular composition has characteristics of accumulation, centrality, and guidance within the space, and simultaneously offers the lowest level of spatial control, which helps to alleviate the tension of users with social anxiety, enhance their sense of belonging, and stimulate their desire to communicate with others. Additionally, the cave-like wrapping is an effective method for creating a 'sense of shelter' in the space. Appropriately placing windows in the design brings visually appealing natural environments into view, providing a safe and comfortable social setting.

5 Outlook and Summary

Through this study, we have gained a deeper understanding of the design of virtual healing spaces based on users' emotional needs, providing a theoretical basis and direction for future research and practice in this field. With the rapid advance of globalization and network technology, modern urban life is characterized by increasing pressure, a fast pace, heavy workloads, and multitasking, which in turn has led to rising levels of anxiety, social phobia, and other psychological issues among modern people. Against this backdrop, virtual healing demonstrates its unique value as an innovative and effective tool, allowing people to find respite from their busy daily lives and enjoy the benefits of digital chemotherapeutic healing, offering strong support for the psychological healing of users worldwide Designers should now expand their focus to the creation and refinement of virtual healing environments, striving to craft personalized and nurturing spaces for users. By integrating cutting-edge technology with users' deep emotional needs, we can address their more complex and profound psychological demands, and develop products that truly benefit users' psychological health.

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