

---

## 2025 International Conference on Economics, Management and Education Technology (ICEMET 2025)

Article

# An Empirical Study on the Psychological Healing of Elderly Patients with Chronic Diseases by Combining Color Therapy with Art Creation

Peng Mei <sup>1,\*</sup>

<sup>1</sup> Wuhan Institute of Design and Sciences, Wuhan, China

\* Correspondence: Peng Mei, Wuhan Institute of Design and Sciences, Wuhan, China

**Abstract:** As the global population ages, the number of elderly patients living with chronic diseases is steadily increasing. In addition to long-term physical discomfort, these patients frequently experience psychological problems such as anxiety, depression, loneliness, and reduced self-worth, which can further aggravate their physical symptoms and form a vicious cycle. Traditional psychological interventions, while beneficial, often face limitations in accessibility, acceptability, and sustained engagement among older adults. Against this background, the present study investigates the psychological healing effects of combining color therapy with art creation for elderly patients with chronic diseases. Drawing on color psychology and art therapy theory, the study analyzes how specific color attributes and creative activities can influence emotional regulation, cognitive processing, and self-expression in this population. It further explores practical implementation methods, including guided color selection, structured and semi-structured art-making tasks, and supportive therapeutic settings tailored to the characteristics of elderly patients. The empirical findings confirm the feasibility and effectiveness of integrating color therapy with art creation as a complementary mental health intervention, demonstrating improvements in mood, emotional stability, and overall psychological well-being. This research provides an innovative approach to psychological care for elderly patients with chronic diseases and offers valuable theoretical and practical implications for enriching mental health service systems and enhancing quality of life in aging societies.

**Keywords:** color therapy; art therapy; elderly; chronic disease; mental health; psychological intervention

Received: 07 February 2026

Revised: 26 March 2026

Accepted: 07 April 2026

Published: 11 April 2026



**Copyright:** © 2026 by the authors. Submitted for possible open access publication under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

---

## 1. Introduction

At a time when the social economy is developing rapidly and medical standards are significantly improved, the aging process of the global population is accelerating. As life expectancy increases, the proportion of the elderly population in the total population continues to rise, and chronic diseases in the elderly have become the main factor threatening the health and quality of life of the elderly. Chronic diseases such as hypertension and diabetes are prevalent among the elderly. These diseases have a long course and are difficult to treat [1]. They seriously damage the patient's physical functions and also have a great impact on their mental health through long-term pain and suffering.

Elderly patients with chronic diseases are prone to loneliness due to their declining physical functions, limited mobility, and greatly reduced social life. Research indicates that the incidence of psychological problems in elderly patients with chronic diseases is much higher than that of the general elderly population, and long-term negative psychological states can delay the recovery process, forming a vicious cycle of physical

and mental interactions, which seriously threatens the physical and mental health and quality of life of patients [2, 3].

Traditional psychological treatment methods for elderly patients with chronic diseases mainly include drug therapy, psychological counseling, and psychotherapy. Drug therapy can relieve patients' anxiety and depression symptoms to a certain extent; however, long-term use may cause adverse reactions such as drowsiness and dizziness, and there is a risk of addiction. Psychological counseling and psychotherapy rely on one-to-one services from professional psychotherapists, which are not only costly but also difficult to popularize widely among older people due to cultural concepts, acceptance, and other factors. In addition, these traditional methods often focus on post-intervention of psychological problems, lack the stimulation of patients' active participation and self-regulation ability, and are difficult to fundamentally improve patients' mental state [3]. It is crucial to explore safer, more effective, low-cost, and widely accepted psychological treatment methods for elderly patients.

In recent years, color therapy and art creation have emerged as non-drug psychological intervention methods in the field of psychotherapy. Color therapy is founded on the principles of color psychology. Through specific colors, the human visual system is stimulated to trigger the reaction of the nervous system and endocrine system, thereby regulating emotions and improving psychological state. Art creation, with the help of artistic expression, provides individuals with a channel for emotional catharsis and self-exploration, showing unique value in promoting mental health. Combining color therapy with art creation and applying it to the psychological healing of elderly patients with chronic diseases not only fits the physical and mental characteristics of elderly patients but also gives full play to the synergistic advantages of the two therapies, providing the possibility for psychological intervention of elderly patients with chronic diseases [4]. This study aims to deeply explore the effect of color therapy combined with art creation on the psychological healing of elderly patients with chronic diseases through systematic theoretical discussion and rigorous empirical research, to provide scientific basis and practical reference for improving the mental health level of elderly patients with chronic diseases and improving the elderly health service system.

## **2. Theoretical Basis**

### *2.1 Color Therapy and Psychological Healing*

There is a close connection between color and human psychology. When the human visual system receives different color stimuli, it triggers corresponding reactions in the nervous system and endocrine system, thereby influencing emotions and psychological states. For instance, red often evokes excitement and enthusiasm, enhancing vitality, while blue conveys a calm and peaceful atmosphere, aiding in the relief of tension. In psychotherapy, color therapy is developed based on this relationship between color and psychology. Therapists strategically use color elements according to the patient's psychological challenges and emotional state, such as arranging environments with specific colors or utilizing color painting, to regulate emotions and improve psychological well-being [5]. This approach has shown effectiveness in alleviating anxiety and depression, offering a novel perspective and method for psychological treatment.

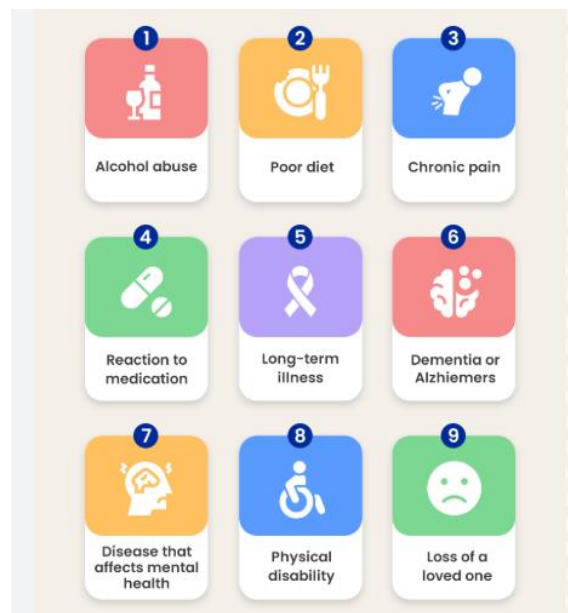
### *2.2. The Psychological Healing Function of Art Creation*

Art creation holds significant psychological healing value. When individuals engage in artistic activities, it serves as an essential channel for emotional expression. Inner feelings that are challenging to articulate in words, such as pain, joy, or confusion, can be conveyed through artistic elements like lines, colors, and shapes, enabling emotional release and catharsis. Furthermore, the process of creating art fosters self-awareness. Through creation, individuals gain a deeper understanding of their thought patterns, emotional tendencies, and personality traits, which contributes to an enhanced sense of self-identity. Additionally, art creation helps cultivate concentration, allowing individuals

to immerse themselves in the creative process, temporarily set aside the distress caused by illness, redirect their focus, and achieve a sense of inner peace and satisfaction [6].

### 2.3. Psychological Characteristics of Elderly Patients with Chronic Diseases

Elderly patients with chronic diseases often exhibit distinct psychological characteristics due to the prolonged nature of their illnesses. The physical decline and restricted activity range caused by these conditions can lead to feelings of loneliness and helplessness. Additionally, concerns about the effectiveness of treatments and the financial burden of medical expenses can intensify anxiety and depression. These negative psychological states may create a vicious cycle, adversely affecting the patient's quality of life and potentially interfering with the immune system, which can hinder disease management and recovery. Addressing these challenges requires targeted psychological interventions tailored to the specific needs of elderly patients with chronic conditions. Figure 1 explains why older people encounter psychological problems.



**Figure 1.** Reasons for Mental Health Challenges in the Elderly.

## 3. How to Combine Color Therapy with Art Creation

### 3.1. Principle and Design Ideas

The combination of color therapy and art creation has a solid theoretical foundation and unique innovations. Both utilize visual art as a medium. Color serves as one of the core elements of art creation, while color therapy conveys psychological cues through the use of color. There is a natural synergy between the two in terms of their mechanisms of action and forms of expression. Integrating color therapy into art creation allows art to not only serve as a means of emotional expression but also enhance the regulation of a patient's psychological state through the targeted application of color [7]. In terms of design, guided by the psychological needs of elderly patients with chronic illnesses, and informed by theories of color psychology and art therapy, careful planning of color selection, creative themes, and activity processes can achieve complementary benefits between the two approaches, thereby amplifying their psychological healing effects.

### 3.2. Specific Implementation

In the specific implementation process, color selection and matching are crucial [8]. Based on the patient's psychological state and emotional challenges, appropriate colors are selected. For patients experiencing anxiety, cool colors such as blue and green are preferred, as they create a calm and soothing atmosphere. For patients dealing with

depression, warm colors such as yellow and orange are recommended to stimulate vitality and improve mood. Additionally, it is essential to adhere to the principle of harmonious color matching to prevent visual and psychological discomfort caused by conflicting colors. Figure 2 illustrates the relationship between color and emotion.



**Figure 2.** The relationship between color and emotion

In terms of art creation, methods are chosen based on the physical condition and artistic foundation of elderly patients with chronic diseases, such as painting and handicrafts. Painting can involve the use of watercolors and crayons, which are simple to use and easy to learn. Handicrafts, such as origami and clay modeling, can stimulate creativity. Regarding the design of activity sessions, patients are gradually guided through stages, including color recognition, free creation, and work sharing. Before starting, the psychological significance of colors is introduced to help patients select colors that align with their emotions. During the creation process, patients are encouraged to express themselves freely. After completing their work, sharing and communication sessions are organized to foster emotional interaction and psychological support among patients.

#### 4. Empirical Research Design

##### 4.1. Research Subjects

The experimental design in empirical research adheres to the principles of classic controlled experiments [9]. The primary objective is to minimize the interference of irrelevant variables by establishing experimental and control groups, thereby enabling a precise examination of the impact of independent variables (color therapy combined with art creation intervention) on dependent variables (mental state of elderly patients with chronic diseases). This design concept is rooted in the logic of causal inference in scientific research, which determines the effectiveness of specific intervention measures by comparing differences between treatment groups.

In this study, the experimental group underwent an intervention combining color therapy and art creation, while the control group received conventional psychological care [10]. Apart from the differing intervention measures, both groups were consistent in key factors such as patient age, gender distribution, and the type and severity of the disease. This approach is based on the "control variable method," a widely applied technique in psychological research. It ensures the internal validity of the research findings, allowing conclusions to be more reliably attributed to the implemented intervention measures. For instance, if the psychological state of patients in the experimental group improves significantly more than that of the control group, it can be

confidently inferred that the difference is attributable to the combined intervention of color therapy and art creation, rather than the influence of unrelated factors.

#### 4.2. Theoretical Framework for Variable Control and Measurement

The variables in the study can be divided into independent variables, dependent variables, and control variables. Independent variables are those actively manipulated by researchers, specifically intervention measures combining color therapy with art creation. The implementation process strictly adheres to established theoretical principles and operational standards to ensure the standardization and consistency of the intervention [11]. For instance, during the color selection process, colors are matched according to the patient's psychological state based on principles of color psychology, ensuring the scientific rigor of the intervention.

The dependent variable is the outcome variable that the study aims to measure [9]. This study selected the psychological state (such as anxiety and depression) and certain physiological indicators of elderly patients with chronic diseases as dependent variables. The psychological state was assessed using the Self-Rating Anxiety Scale (SAS) and the Self-Rating Depression Scale (SDS). These scales are constructed based on psychometric theory and have been validated through extensive research, demonstrating strong reliability and validity. The measurement of physiological indicators also adheres to medical measurement principles, ensuring data accuracy and reliability through standardized procedures.

Control variables include various factors that may influence the research results, such as the patient's education level and family support. During the research design phase, random grouping and strict inclusion and exclusion criteria are employed to balance differences between the experimental and control groups regarding these control variables. Throughout the study's implementation, conditions such as the environment and duration of the intervention for both groups are kept consistent to minimize the impact of external factors on the results. This approach enhances the scientific rigor of the research and strengthens the credibility of its conclusions.

#### 4.3. Ethics and Feasibility

Before the study was conducted, the three ethical principles of respect, benefit, and fairness were fully considered. The principle of respect was demonstrated by ensuring the autonomy of patients, providing detailed explanations of the study's purpose, methods, risks, and benefits to patients and their families prior to the study's commencement. This ensured that patients voluntarily participated with informed consent and retained the right to withdraw from the study at any time without facing any adverse consequences.

The principle of benefit required prioritizing the interests of patients during the research design and implementation. This involved ensuring that the intervention measures were harmless and had a positive impact. The combination of color therapy and art creation as an intervention method is non-invasive and low-risk, thereby safeguarding the safety and health of patients. The principle of fairness ensured that the selection of research participants and the allocation of intervention measures were equitable and reasonable, avoiding biases related to factors such as gender or economic status. This approach allowed all participants to benefit equally from the research or gain knowledge.

From a feasibility perspective, the intervention method combining color therapy with art creation is highly practical. The required materials and venues are relatively simple, and the activities are engaging and enjoyable, aligning with the physical and mental characteristics of elderly patients with chronic diseases. This makes the intervention easy for patients to accept. Furthermore, established theories in color psychology and art therapy provide a robust theoretical foundation for the design and implementation of the intervention plan, ensuring its feasibility both in theory and practice.

## 5. Research Results and Implications

### 5.1. Research Results

After twelve weeks of intervention, the anxiety and depression self-rating scale scores of the experimental group were significantly lower than before the intervention, and their mental state showed marked improvement. Although the control group also experienced some improvement, the effect was not as pronounced as that observed in the experimental group. In terms of physiological indicators, the fluctuation range of blood pressure, heart rate, and other metrics in the experimental group decreased and became more stable overall, demonstrating the positive impact of improved mental health on physical well-being. Based on the patients' creative works and interview feedback, most participants reported that their negative emotions were alleviated, their outlook on life became more positive, and their willingness to engage in social activities increased.

### 5.2. Results and Discussion

The combination of color therapy and art creation can effectively improve the psychological state of elderly patients with chronic diseases, and its mechanism of action can be explained from multiple levels. The visual stimulation of color directly influences brain activity, regulates the endocrine and nervous systems, and enhances mood. Art creation provides opportunities for emotional expression and self-exploration, enabling patients to release stress and strengthen self-identity. The integration of these two approaches creates a synergistic effect, where the selection of colors guides the creative theme and deepens the psychological regulatory impact during the creative process [7]. Additionally, the social interaction component of the activity fosters emotional communication and mutual support among patients, further amplifying the psychological healing benefits. Individual differences, such as artistic background and personality traits, as well as factors like the intervention environment and the expertise of professionals, also play a role in shaping the effectiveness of the intervention.

### 5.3. Implications

Based on the research results, the intervention model combining color therapy and art creation can be further promoted in the psychological healing practices of elderly patients with chronic diseases. During implementation, it is essential to develop personalized intervention plans tailored to the individual differences of patients to enhance the effectiveness of the approach [10]. Strengthening the training of professionals is also crucial to improve their understanding of color psychology and art therapy techniques, ensuring the scientific execution of intervention activities. Furthermore, integrating this intervention model with community elderly care and rehabilitation services in medical institutions could expand its reach, benefiting a larger population and providing more comprehensive psychological support for elderly patients with chronic conditions.

## 6. Conclusion

This study systematically examined the integration of color therapy with art creation and its impact on the psychological well-being of elderly patients with chronic diseases, yielding findings of both theoretical and practical significance. The results indicate that the combination of these interventions can substantially enhance the psychological state of elderly patients with chronic conditions. Feedback from participants revealed that most experienced a notable reduction in negative emotions during the activities, developed a more positive outlook on life, and demonstrated increased willingness to engage in social interactions, further validating the effectiveness of this intervention model.

Nonetheless, certain limitations were identified in this study. The sample selection was restricted to a specific region, resulting in a relatively narrow geographical distribution, which may limit the generalizability of the findings to other regions or elderly patients with chronic diseases from diverse cultural backgrounds. Additionally,

despite efforts to control various variables during the research process, some potential factors may not have been fully accounted for, potentially influencing the outcomes.

Building on the findings and addressing the limitations, future research could focus on several areas. Firstly, expanding the sample selection to include elderly patients with chronic diseases from varied regions and cultural contexts would enhance sample diversity and improve the applicability of the results. Secondly, extending the duration of the intervention and conducting long-term follow-up studies could provide deeper insights into the sustained effects of this model on both psychological and physical health. Furthermore, refining the intervention plan to tailor it to the specific needs of patients with different types of chronic diseases, while rigorously controlling for potential influencing factors, would contribute to the development of a more scientifically robust and practically effective approach to psychological healing for elderly patients with chronic conditions.

## References

1. C. A. Linden, J. E. Uhley, D. Smith, and M. A. Bush, "The effects of mental practice on walking balance in an elderly population," *The Occupational Therapy Journal of Research*, vol. 9, no. 3, pp. 155-169, 1989.
2. J. L. Roseman-Halsband and A. C. Bested, "A Pilot Feasibility Study of the Effects of Color and Light Therapy for Patients with Chronic Fatigue/Myalgic Encephalomyelitis," *Integrative and Complementary Therapies*, vol. 30, no. 1, pp. 14-19, 2024.
3. A. Yroni, O. Blanc, L. Anguill, C. Arbus, L. Boudieu, M. C. Patoz, et al., "Adherence to clinical practice guidelines for using electroconvulsive therapy in elderly depressive patients," *BMC Psychiatry*, vol. 24, no. 1, p. 487, 2024.
4. S. A. Ahmadi Ghaleh, M. Jaberi, B. Bahrainipour, S. Ahadi, M. Mohajer Ghaderabadi, and A. Moradi Nourozi, "The Effectiveness of Painting Therapy with an Emphasis on Color on Social Skills and Empathy in Children," *Iranian Journal of Educational Research*, vol. 4, no. 1, pp. 17-28, 2025.
5. R. Gupta, "Color therapy in mental health and well being," *International Journal of All Research Education and Scientific Methods (IJARESM)*, vol. 9, no. 2, pp. 1068-1076, 2021.
6. M. K. Kim and S. D. Kang, "Effects of art therapy using color on purpose in life in patients with stroke and their caregivers," *Yonsei Medical Journal*, vol. 54, no. 1, pp. 15-20, 2013.
7. R. L. Withrow, "The use of color in art therapy," *The Journal of Humanistic Counseling, Education and Development*, vol. 43, no. 1, pp. 33-40, 2004.
8. C. Ikeda, "Study on Color Art Therapy Techniques."
9. F. B. Tate and H. Allen, "Color preferences and the aged individual: Implications for art therapy," *The Arts in Psychotherapy*, vol. 12, no. 3, pp. 165-169, 1985.
10. S. I. Kim, J. Bae, and Y. Lee, "A computer system to rate the color-related formal elements in art therapy assessments," *The Arts in Psychotherapy*, vol. 34, no. 3, pp. 223-237, 2007.
11. E. P. Mosse, "Color therapy," *American Journal of Physical Medicine & Rehabilitation*, vol. 21, no. 1, pp. 33-40, 1942.

**Disclaimer/Publisher's Note:** The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of Publisher and/or the editor(s). Publisher and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.