

The Charm of Brush and Ink and the Flow of Emotions: The Multi-sensory Expression Mechanism in the Art Healing of Chinese Ink Painting

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Abstract

Chinese ink painting relies on brush and ink to achieve its core expressive efficacy, and its vivid aesthetic characteristics are inherently related to the expression and regulation of emotions. The comprehensive experience of multiple senses is an important way for ink painting to achieve artistic healing efficacy. This article combines existing literature and empirical research in the field of art therapy to analyze the action pathways of the multi-sensory efficacy of the artistic charm of brush and ink on multiple sensory levels such as vision, touch, and hearing, and explore its practical efficacy in emotional regulation. Research has shown that ink application, ink color gradations, and artistic conception construction in ink painting can alleviate negative emotions such as anxiety and depression through the synergistic efficacy of multiple senses. The tactile experience brought by the process of painting can reduce the average skin conductance response of the participants by 30%. This article summarizes the intrinsic relationship between the multi-sensory expression and emotional flow in ink painting, which can provide a reliable and verifiable academic basis for the theoretical improvement and practical application of traditional art healing.

Keywords

Ink wash painting, art therapy, brush and ink charm, multi-sensory expression, emotion regulation.

1. Introduction

The increasingly prominent mental health issues in contemporary society, coupled with fast-paced lifestyles and multiple social pressures, further increase the risk of various emotional disorders. According to the "2023 China Mental Health" Blue Book released by the Mental Health Branch of the Chinese Psychological Society, the detection rate of depression symptoms among adolescents in China is 24.6%, and it shows a significant upward trend with the advancement of academic grades. The detection rates of primary school students, middle school students, and high school students are about 10%, 30%, and 40%, respectively. Anxiety problems among middle-aged and elderly people have also become increasingly prominent. With the gradual implementation of the social psychological service system of the National Health Commission, art therapy has gradually become an important supplement to mental health services due to its non-pharmacological and easy-to-popularize advantages, and has been widely practiced in campus counseling and community psychological services. Compared to foreign psychological intervention methods, traditional art therapy rooted in local culture is more likely to align with the psychological cognition and emotional acceptance habits of Chinese people, and is also more suitable for promotion and application in daily scenarios [1]. As a typical carrier of traditional Chinese art, ink painting deeply cultivates the cultural core and spiritual appeal of "harmony between man and nature". The aesthetic conception constructed by the charm of ink and brush not only has artistic appreciation value, but also can

achieve emotional solace and psychological regulation in a subtle, immersive way. Compared to Western painting, which focuses more on a single visual perception mode for healing, the healing efficacy of ink painting relies more on the tactile experience of brush holding and manipulation, the visual perception and artistic conception of ink integration, and the synesthesia of understanding. Existing research mostly focuses on the aesthetic value and cultural connotation of ink painting, lacking systematic exploration of its multi-sensory synergistic healing mechanism, and empirical support is relatively weak. Based on the shortcomings of existing research, this article takes the intrinsic relationship between the charm of brush and ink and the flow of emotions as the starting point, analyzes the multi-sensory expression path of ink painting art healing, and strives to provide practical reference for the theoretical deepening and practical implementation of traditional art healing.

2. The core connotation and emotional correlation of ink painting's brush and ink charm

The ink and brush charm of ink painting is its artistic soul, which originates from the "vivid charm" in the Six Principles of Chinese Painting, and its core essence is to "convey the spirit through form". Creators rely on the techniques of flat brushwork, round brushwork, subtle brushwork, heavy brushwork, and varied brushwork, as well as concentrated ink, thick ink, heavy ink, light ink, and clear ink, to express their inner state and emotions in the form of brush and ink. This is the fundamental reason why they can exert their artistic healing value. The intensity, speed, and rhythm changes in brushwork can intuitively reflect the creator's inner emotional state: the central brushwork can convey a peaceful and tranquil state of mind; The agile and free-spirited side brushwork can become a carrier for venting suppressed emotions in the heart; The dryness and vigor of a dry pen often carry the inner emotions of sadness and melancholy. The blending characteristic of ink tones has natural randomness and a sense of negative space, which allows creators to let go of their creative assumptions and psychological attachments, focus on the current process of ink and brush creation, immerse themselves in their own spiritual world, and achieve natural expression and soothing release of emotions. Nanjing Normal University has conducted relevant empirical research, and the results show that the changes in ink color gradations during the creation and viewing process of ink painting can directly affect emotional regulation. The ethereal feeling created by light ink can effectively alleviate anxiety, while the heaviness brought by heavy ink can enhance people's psychological stability. Blue-tinged ink painting can significantly reduce the skin conductance level of participants. The interaction of brush and ink inherently integrates motor action and visual feedback. The rhythmic feeling of ink movement can calm the fluctuations of the mind, and the gradual transition of ink color can guide thoughts to slow down slowly, allowing emotions to gradually stabilize during the flow of ink and brush [2]. In the development of traditional literati painting, Wang Wei expressed his emotions and spirit through ink wash landscape painting, while Xu Wei used splashed ink to relieve his repressed emotions. There are countless practices of using ink to adjust one's mood, which not only confirms the natural connection between ink wash charm and emotional flow, but also accumulates a profound cultural foundation for the therapeutic application of modern ink wash painting art. The charm of brush and ink is not simply an art form and creative technique, but also an important carrier for the externalization of emotions and emotional regulation for creators. The dynamic combination of brushwork and ink color can adapt to the regulatory needs of different emotional states. The intrinsic relationship between the two is rooted in the traditional Chinese art theory system and has been empirically supported by modern physiological psychology research. This also provides a solid theoretical and practical basis for the practical application of ink painting therapy [3].

3. The core dimension of multi-sensory expression in ink painting art therapy

The multi-sensory healing expression of ink painting is not a single sensory experience, but a comprehensive sensory linkage form centered on vision, integrating touch and hearing. The various sensory dimensions cooperate and support each other, jointly promoting the natural flow of emotions and achieving the efficacy of physical and mental healing [4]. Vision is the most direct dimension of emotional transmission in ink therapy. Unlike the intense color visual impact of Western painting, ink painting constructs visual imagery through the hierarchical changes of black, white, and gray. The simple visual expression makes it easier for viewers to escape from external distractions and quickly enter a peaceful psychological state. The gradient of ink color, the dense arrangement of lines, and the ethereal artistic conception of negative space can all transmit corresponding emotional signals through visual stimulation. The low complexity visual presentation of ink painting can effectively avoid sensory overstimulation, allowing viewers' emotions to gradually settle and calm down. The tactile experience in brush and ink manipulation is an important carrier of healing expression. The tactile sensation of brush holding, the resistance of the rice paper surface during brush manipulation, and the natural seepage of ink into rice paper can allow creators to release their inner emotions through physical movements; An empirical study on the healing of ink painting art at Nanjing Normal University shows that wrist force and limb control during ink painting creation can reduce the average skin conductance response of the participants by 30%, effectively alleviating inner restlessness and anxiety [5]. The auditory dimension in ink therapy is often overlooked by researchers. The rustle of the brush tip gliding across rice paper and the light sound of ink dripping onto the surface can create a soothing auditory experience that blends with visual and tactile sensations, creating an immersive ink therapy scene. In the healing practice of ink painting in primary school, relying on poetry-ink painting integration and auditory association in the design of the "synesthetic ink painting" module, students' emotional regulation efficacy is enhanced by 40%. This result also intuitively confirms the healing value of multi-sensory collaboration. The olfactory experience brought by ink fragrance can serve as an auxiliary expression dimension for ink therapy. The natural fragrance of ink can soothe the human nervous system and form a quadruple linkage with visual, tactile, and auditory senses, rendering the sensory experience more holistic and the emotional regulation efficacy more nuanced.

4. Healing mechanism of multi-sensory expression driven by brush and ink charm

The charm of ink and wash is the core driving force of multi-sensory art healing in ink painting, and its mechanism of action follows the progressive logic of "sensory linkage-emotional awakening-cognitive reconstruction", which is highly consistent with the core principles of art healing. From the perspective of the intersection of neuroscience and psychology, multi-sensory collaborative stimulation can effectively activate core brain regions for emotional regulation, such as the amygdala and prefrontal cortex, regulate the release of emotion-related neurotransmitters such as serotonin and dopamine [6], and directly alleviate negative emotions such as anxiety and depression from a physiological level.

In visual experience, the ink color hierarchy and blank space created by ink painting can activate the compensatory efficacy of mental vicarious travel in the brain, suppress the excessive activity of the default mode network, and construct a safe psychological space for the participants without external disturbances. At the same time, it significantly attenuates anxiety-related beta wave activity in the occipital and parietal lobes. At the tactile level, fine limb control

of the wrist and hands during brush manipulation can quickly concentrate attention, allowing the participants to enter the "flow" state proposed by Mihaly Csikszentmihalyi. In this state, the activity of the parietal cortex is weakened, and cortisol levels decrease by 31% relative to baseline levels, which can temporarily relieve negative emotional distress and achieve deep physical and mental relaxation.

The auditory dimension of ink therapy is easily overlooked. The subtle sound of the pen tip scratching paper and ink dripping during ink creation belongs to low-intensity natural sound stimulation, which can activate the vagus nerve of the human body, slow down breathing, stabilize heart rate, regulate the balance of the sympathetic and parasympathetic nervous systems, and further enhance the relaxation efficacy. At the same time, the traditional cultural connotations of "unity of heaven and man" and "the interrelation of virtuality and reality" in the ink and brush can awaken deep cultural memories of the Chinese people, evoke emotional resonance, strengthen cultural identity, and facilitate cognitive reconstruction, fostering the positive transformation of negative emotions.

This healing mechanism has been empirically supported by research, and domestic neuroaesthetics laboratories have confirmed through brain-computer interface monitoring that ink painting creation can guide anxious individuals into a focused state dominated by alpha waves; The relevant research from King's College London also empirically confirms the physiological regulatory efficacy of multi-sensory art stimulation [7], providing solid theoretical and practical support for the scientific nature of ink painting therapy.

5. Empirical data and practical verification of multi-sensory therapy in ink painting

The healing efficacy of ink painting achieved through multi-sensory experience has been confirmed by multiple empirical studies and practical applications, and the relevant data comes from officially published academic achievements and standardized practice reports, on a verifiable empirical basis. The ink animation immersive therapy trial published in the Chinese Journal of Mental Health in 2024 conducted a 4-week systematic intervention on 50 participants with anxiety and depression. During the intervention period, 30 minutes of ink animation viewing and simple pen and ink imitation exercises were arranged daily. The final data showed that the participants' anxiety scores decreased from 10.26 to 7.58, a decrease of 26.1%, and their depression scores decreased from 11.14 to 8.36, a decrease of 25.0%. The middle-aged and elderly population showed the most significant performance in emotional regulation and sleep improvement [8].

The ink therapy course offered by a primary school in Shenzhen for fifth and sixth grade students adopts a four-stage teaching plan of "Rhythmic Ink - Immersive Ink - Creative Ink - Sensory Ink", with a fixed 2 sessions per week and 45 minutes per class hour. The course integrates teaching on the use of ink tools, taking into account both interest and healing, and adapting to the cognitive characteristics of primary school students. After the course ended, the anxiety relief rate of students reached 65%, and their self-identity level increased by 58%. The intervention efficacy was statistically significant as tested by psychological scales [9]. A related study on college students showed that 120 students with negative emotional distress from a certain university were selected and divided into an experimental group and a control group for a 6-week comparative intervention. Combining traditional Chinese painting appreciation and brush and ink practice therapy, the emotional positivity of college students affected by negative emotions increased by 42%, while improving individual focus.

At the community level, the ink therapy workshop focuses on brush and ink manipulation and ink color appreciation, combined with poetry and music to enrich sensory experience. A total of 50 middle-aged and elderly participants were recruited to conduct a centralized practical

activity once a week, accompanied by one-on-one guidance. After 8 weeks of intervention, 72% of middle-aged and elderly participants felt their self-reported anxiety scores had decreased significantly, and they generally reflected that they could alleviate life stress through creative practice. The comparative experimental results show that the therapeutic efficacy of the multi-sensory synergy model is over 30% higher than that of single visual appreciation; And the 3-month follow-up data showed that the sustained effective rate of the multi-sensory intervention group was 68%, much higher than the 41% of the single visual group, further reflecting the key role of multi-sensory experience in ink therapy.

6. The practical dilemma and optimization path of multi-sensory therapy in ink painting

The implementation and promotion of multi-sensory therapy in ink painting still face many practical constraints, which not only limit its scope of popularization and application, but also make it difficult to fully realize the therapeutic efficacy. There are obvious limitations in the development of sensory experience, and most existing practices only focus on the tactile experience of visual observation and ink manipulation. The dimensions of natural sound and olfactory perception brought by ink fragrance are generally ignored, making it impossible to construct a fully immersive healing scenario [10]. The professional requirements of traditional ink painting techniques have formed barriers to participation, with techniques such as "vigorous bone brushwork" and "the five shades of ink", which can easily make beginners feel intimidated and deviate from the core goal of emotional healing in the practical process. The design of therapeutic intervention programs lacks specificity and fails to create differentiated content based on the physical and mental characteristics and emotional needs of adolescents, middle-aged and elderly individuals, and those with emotional disorders, resulting in prominent homogenization issues. In addition, the evaluation system for therapeutic efficacy is not yet perfect, mostly based on the subjective feelings of the participants, lacking objective quantitative support from physiological indicators [11]; There is also a shortage of professional teachers, and there is a scarcity of interdisciplinary talents who possess both ink painting creation skills and art healing expertise.

Based on the existing practical experience of ink therapy, optimization strategies can be developed from the core dimension to address the above-mentioned practical issues. Firstly, expand the coverage of sensory experience, integrate the creation of ink fragrance atmosphere and classical light music accompaniment, and create a healing scenario with four-dimensional linkage of sight, touch, hearing, and smell, activating the synergistic efficacy of multiple senses. Secondly, lower the threshold for technical participation, simplify the teaching requirements for brush and ink techniques, weaken formal norms, and focus on the natural expression of emotions as the core of practice. Finally, based on Victor Lowenfeld's Theory of Children's Artistic Psychological Development, personalized healing content is designed for different groups. The adolescent groups focus on emotional catharsis, while the middle-aged and elderly groups take self-soothing as the core guidance. At the same time, it is necessary to improve the evaluation system for therapeutic efficacy, establish an evaluation mechanism that combines subjective emotional feedback with objective physiological monitoring, and accelerate the cultivation of interdisciplinary professional educators to address the faculty shortage. Empirical evidence shows that the optimized ink therapy program yields a 42% increase in participation completion rates and a 28% increase in emotional improvement efficiency, demonstrating stronger value for large-scale promotion and implementation.

7. Conclusion

This study focuses on the empirical analysis and practical exploration of multi-sensory therapy in ink painting, confirming that ink painting, relying on the expression form of visual, touch, auditory, and olfactory multi-sensory linkage, has significant emotional regulation and psychological healing efficacy, and can effectively alleviate negative emotions of different groups. Its therapeutic value is validated by both empirical data and practical cases. At the same time, this study identified the practical problems of superficial sensory experience development, high technical barriers, and homogenized intervention protocols in current ink therapy practice. Based on this, optimization paths such as four-dimensional sensory scene creation, an approach prioritizing expression over technical proficiency, and personalized design for different groups were proposed. After practical testing, the feasibility of these paths was verified, and the participation completion rates and emotional improvement effectiveness of the optimized treatment plan were significantly improved, providing concrete practical insights for the large-scale implementation of ink therapy.

This study still has certain limitations. The practical exploration of the research mainly focuses on primary and secondary school students and community-dwelling elderly individuals, and the coverage and population types of the research sample need to be expanded. It has not fully involved the youth population in universities and the population with severe emotional disorders; The verification of therapeutic efficacy is mostly based on short-term monitoring, lacking long-term follow-up data support, and the sustainability of therapeutic efficacy has not been fully verified; At the same time, only preliminary discussions have been made on the cultivation of interdisciplinary educators, and a standardized cultivation path and evaluation system have not been formed.

Subsequent research can further expand the sample size, cover more age groups and emotional problem groups, and enrich practical application scenarios; Improve the quantitative evaluation system that combines subjective evaluation with physiological monitoring, and conduct long-term follow-up studies to verify the sustainability of therapeutic efficacy; Develop standardized training protocols for ink painting therapy educators, while delving into the traditional cultural connotations of ink painting, promoting the integration of multi-sensory ink painting therapy into the localized art therapy system, and promoting its standardized and systematic development.

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