

A study on the effects of inner exploration art therapy on the self-recovery function in middle-aged women

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Abstract: Middle-aged women often experience conflicts and confusion in fulfilling roles such as marriage, childbirth, parenting, household chores, and economic activities. These challenges can lead to a lack of self-fulfillment and identity, resulting in physical and mental crises. This study aims to implement an introspective art therapy program to enhance the self-recovery abilities of middle-aged women. To evaluate the program's effectiveness, self-esteem scales, self-efficacy scales, and the Person Picking an Apple from a Tree (PPAT) projective drawing test were conducted before and after the program and collected data were analyzed for comparison. Participants' verbal expressions and interactions were examined to visually assess internal changes. The program was designed with four key goals: "self-exploration," "self-understanding," "self-acceptance," and "self-growth," and consisted of 14 sessions. The program's effectiveness was assessed through quantitative analysis of self-esteem and self-efficacy data, as well as content and formal analyses of PPAT results. Behavioral changes and emotional expressions were qualitatively analyzed using observation records, artwork progress, and photographs. The results demonstrated that introspective art therapy positively influenced self-recovery by promoting self-understanding, exploration, acceptance, and growth. Participants developed positive self-images and values, contributing to improved self-esteem and efficacy. It is implied that the program is effective in enhancing middle-aged women's ability to recover their sense of self and address challenges positively.

Keywords: Art therapy, Inner exploration, Self-recovery, Self-efficacy, Self-growths.

1. Introduction

In modern society, middle-aged women experience symptoms of psychological, emotional, and social changes due to the burden of housework and economic activities caused by marriage, childbirth, and child-rearing. These changes tend to lead to a lack of sense of achievement and self-identity [1, 2]. Every human being is born as independent being with individual physical characteristics, personality, and potential abilities, and through various experiences, they perceive themselves, others, and objects, developing their life goals, abilities, and values in their own ways. In order to support self-development during this period of internal and external change, self-growth must precede, which allows for preparation for a mature and adaptive old age with changes in life attitudes [3].

The process of self-recovery is a necessary step to form a new self by understanding and accepting that the past self and the present self are two different selves in continuity [4]. In addition, previous studies have shown the effectiveness of group art therapy programs in improving self-growth and interpersonal relationships in adolescents [5, 6] confirming its potential benefit for students. Furthermore, a study on the positive effects of art therapy on self-esteem in middle-aged women [7] and its effect on the self-recovery of middle-aged men with anxiety and obsessive traits revealed that the

art therapy process may provide a transformative opportunity to develop a healthy self with hope for the future and ideals about oneself [8].

Therefore, this study aims to examine the lack of self-identity due to negative psychological changes in middle-aged women and explore the impact of self-growth on self-recovery functions through inner exploration art therapy, promoting their emotionally healthy lives.

2. Materials and Methods

2.1. Subjects

This study was conducted upon request from the institution's manager, including middle-aged women who work at elementary schools near O-district in Seo-gu, Daejeon Metropolitan City and use the community library. A total of 4 participants were included under voluntary participation. The O-district Community Children's Library located in Daejeon Metropolitan City was selected as the research site. The art therapy program was conducted once a week for 90 minutes per session, totaling 14 sessions from May 18 to October 13, 2023.

2.2. Research Method

In this study, self-esteem scale, self-efficacy scale, and the Person Picking an Apple from a Tree (PPAT) projective drawing test were administered before and after the program. Data was collected from the test results, recordings of the entire process of each session, observation records from one observer, the progress of artwork activities for each session, photographs, and session-specific artwork materials. The results of the self-esteem scale, self-efficacy scale, and PPAT projective test were compared and analyzed before and after the therapy, and the verbal expressions and interactions of participants were analyzed for each session.

2.3. Measure

Mention the statistical details, the number of samples used, statistical tools/software used/SD/level of significance, repeatability etc.

2.3.1. Self-Esteem Scale

The Rosenberg Self-Esteem Scale was used to measure self-esteem. The Rosenberg Self-Esteem Scale is a self-report test that measures what attitude one has towards oneself. The self-concept scale and sub-factors used in this study are shown in Table 1.

Table 1.
Sub-factors and Items of Self-Esteem Scale.

Scale	Sub-factor	Item Number	Number of Items
Self-Esteem	Positive Items	1, 2, 4, 6, 7	5
	Negative Items	3, 5, 8, 9, 10	5
	Total	10-Jan	10

Note: *Negative items: Reverse coded.

2.3.2. Self-Efficacy Scale

Bandura [9] defined self-efficacy as a belief system about an individual's ability to successfully perform activities or behaviors [10]. This study used a questionnaire translated by Hong [11] based on the Self-Efficacy Scale developed by Sherer, et al. [12] which was grounded in Bandura [9] self-efficacy theory. The sub-factors of the self-efficacy scale used in this study are shown in Table 2.

Table 2.
Sub-factors and Items of Self-Efficacy Scale

Scale	Sub-factor	Item Number	Number of Items
Self-Efficacy	General self-efficacy	1-17	17
	Social self-efficacy	18-23	6
	Total	1-23	23

Note: *Negative items (Reverse calculated): 2, 5, 6, 7, 10, 11, 12, 14, 16, 17, 18, 20, 22.

2.3.3. Person Picking an Apple from a Tree (PPAT) Projective Drawing Test

PPAT was introduced by Gantt and Tabone [13] book "The Formal Elements Art Therapy Scale." It is a drawing test that asks the subject to "draw a person picking an apple from a tree." PPAT was developed as an art therapy assessment report to provide clinicians and researchers with standardized drawings and scientific evaluation tools to support them. It is a useful drawing test for diagnosing a patient's clinical condition and response to treatment.

2.4. Background and Structure of Inner Exploration Art Therapy Program

This study set four domain-specific goals of 'self-exploration,' 'self-understanding,' 'self-acceptance,' and 'self-growth' based on a self-growth group counseling program [14] to investigate the effects of an inner exploration art therapy program on middle-aged women's self-recovery function. A total of 14 sessions of the inner exploration art therapy program was structured accordingly. The program structure and the details of each session are shown in Table 3 and Table 4, respectively.

Table 3.
Structure of Self-Growth Group Counseling Program

Stage	Domain	Sessions	Composition of Small Group Program
Initial Stage	Self-exploration	1st-4th	Set to promote self-confidence and form intimacy with group members, allowing opportunities for self-exploration and self-expression
Middle Stage	Self-understanding	5th-9th	Set to recall childhood, examine one's physical and mental health status, and understand one's identity and values formed during the growth process
	Self-acceptance	10th-12th	Set to cultivate the strength to view life positively by acknowledging and accepting the current life, including emotions, behaviors, and abilities based on self-understanding, aim
Final Stage	Self-growth	13th-14th	Set to experience psychological rebirth by recognizing the importance of responsibility for choices, maintaining a positive attitude, and appreciating small joys and gratitude in daily life for a fulfilling life

Table 4.
Session-by-Session Inner Exploration Art Therapy Program

Stage	Session	Activity Name	Detailed Content
Pre-test	0	Program Introduction	· Pre-test - PPAT test, Self-Efficacy Scale, Self-Esteem Scale
Initial Stage	1	9 Cuts of My Life!	· Making our rules · Self-introduction - Who am I? (9-cut division sheet)
	2	Relationship Map	· Expressing myself through animal images - My past, present, and future - Exploring psychological distance using animal cards
	3	Stress Assessment	· Rolling wheel - My given roles - Physical reactions to stress factors
	4	Emotion Color Dictionary	· I have these feelings... - Emotion color dictionary and emotional vocabulary expression - Connecting emotion colors according to relationships
Middle Stage	5	Health Life Clock	· Turning back the times - Childhood physical and mental illnesses - Life expectancy and action plans
	6	Life Values	· Precious values one believes in and follows - 10 prioritized values - My role in relationships
	7	My Strengths	· My hands - Words I hear vs. Words I want to hear - Encouragement and support
	8	My Mental Image	· My unknown inner feelings - Looking into the heart using photos
	10	My Wishes	· Wish collage - The life I dream of
	11	Life Balance	· 6 aspects of a balanced life - Setting specific plans for balance in exercise, work, leisure, friends, spirituality, and self-development
	12	My Legacy	· Legacy - Inherited legacy, legacy to leave behind - Rediscovering life values
Final Stage	13	Seeds of Positivity	· Small joys of daily life - 20 things that make me smile - Expressing gratitude
	14	Renewing Life	· Letting go and departing - My 10 treasures - The precious self I can't let go
Post-test	0	Sharing Impressions	Wrap-up -PPAT test, Self-Efficacy Scale, Self-Esteem Scale

2.5. Data Analysis

In this study, the quantitative data collected (self-esteem scale and self-efficacy scale) test results were compared and analyzed before and after the program to evaluate the effectiveness of the inner exploration art therapy program, thereby assessing the impact of the program on participants' self-esteem and self-efficacy. Additionally, the results of the Person Picking an Apple from a Tree (PPAT) projective drawing test were analyzed in terms of content and form to understand the program's impact on participants' psychological changes.

Data collected during the program, including the observer's records, the progress of artwork activities for each session, and photographs taken, were qualitatively analyzed to assess changes in participants' behavior and emotional expression. Furthermore, the recorded content was transcribed, and meaningful or repetitive words were extracted to analyze participants' verbal expressions and interactions, through which, the internal changes of the participants were visually evaluated.

3. Results and Discussion

3.1. Program Process and Progress Evaluation

Stage 1, the self-exploration domain, focused on forming rapport through natural self-expression using a 9-division activity rather than verbal expression. Participants were instructed to explore their past, present, and future through animal images, expressing repressed emotions and experiencing comfort. The process of recognizing and expressing one's emotions is crucial for maintaining relationships with others, individual mental health, and is essential for the growth of self-awareness and self-realization [15].

In Stage 2, participants were allowed to examine physical and mental illnesses from childhood, understand their core values, and identify their roles in their current environment. The process of uncovering and objectifying childhood emotional wounds, along with confronting and interpreting the unconscious, promoted self-understanding and provided an opportunity for a more fulfilling life [16, 17].

In Stage 3, participants were encouraged to facilitate self-acceptance through visual expression of emotions and experiences, and self-exploration. Participants expressed their ideal life through collage work, supporting them to understand inner self-changes and growth, and accept various life issues including their current situation [18]. They were also instructed to identify inherited mental values from parents, consider values to pass on to their children, and encourage each other to diagnose their current life for balance and create specific action plans.

In Stage 4, they were allowed to examine elements that positively influence daily life, such as discovering subjects that make themselves smile. Participants were encouraged to consciously recognize and share experiences of precious moments with family, conversations with friends, and communion with nature. They also reviewed their daily language to improve its quality and practiced clear self-expression to continue a more meaningful life.

3.2. Results of Self-Esteem Scale Changes

The self-esteem scale test is a self-report measure assessing one's attitude towards oneself, consisting of 10 items: 5 positive and 5 negatives. The overall change results are shown in <Figure 1> below.

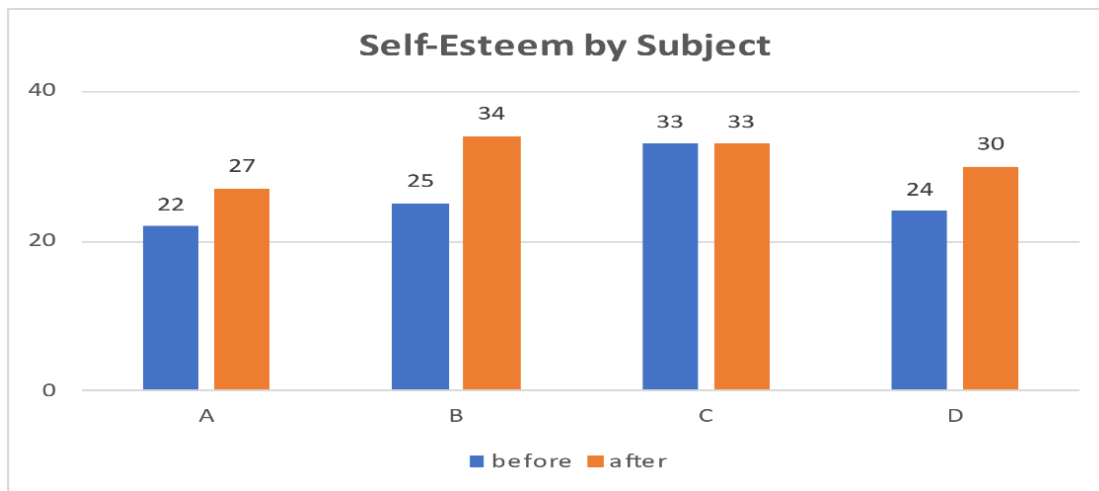


Figure 1.
Self-Esteem by Subject

In <Figure 1>, depicting the comparison of pre- and post-test results for self-esteem in group art therapy, an increase from 26 to 31 points was found with an average increase of 5 points for all subjects.

Subject B showed the most significant change, increasing from 25 to 34 points, a 9-point improvement. Notably, B, who was initially not very active, expressed surprise during the 4th session's emotion color dictionary activity, realizing how her emotional vocabulary and associated objects connected with the same colors. Subsequently, B participated more actively in the program, which is assumed to have influenced her self-esteem score. B actively expressed her unique self-image through colors, textures, and lines, revealing suppressed emotions such as depression, anxiety, confusion, and despair stemming from her childhood dream of becoming an artist and her mother's death. It is suggested that, while the process of revealing hidden inner depths through symbols can be frightening, self-concept formation may take place by examining, understanding, and accepting various aspects of oneself from different perspectives [19].

Subject C showed no change between pre- and post-tests. In the final feedback session, C expressed, "I'm told to find myself, and sometimes I feel I have, but then it seems chaotic again. It feels like going back to basics." C voiced a disconnected emotion, asking, "Why is faith necessary in this case?". Although C concluded positively, stating, "I feel like some change has occurred in me, and I'm trying to enjoy even this," it is assumed that a longer period of self-exploration might be necessary.

3.3. Results of Self-Efficacy Changes

The self-efficacy test, comprising 17 items for general self-efficacy and 6 items for social self-efficacy, totaling 23 items, was compared pre- and post-tests. The overall change results are shown in <Figure 2>.

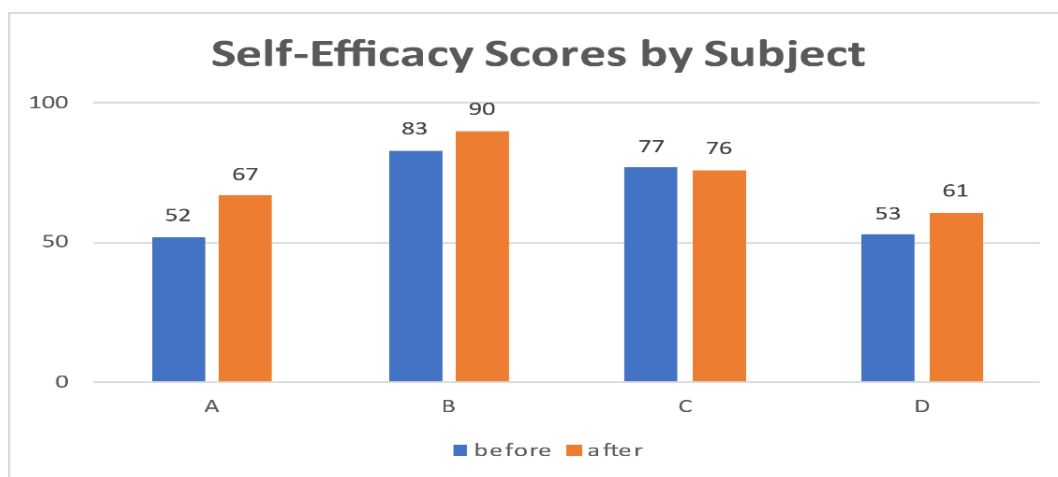


Figure 2.
Self-Efficacy Scores by Subject

In Figure 2, depicting the comparison of participants' scores before and after the group art therapy self-efficacy test, an increase was shown from an average pre-test score of 66.25 to a post-test score of 73.5, an average increase of 7.25 points. Subject A showed the most significant improvement, increasing from 52 points in the pre-test to 67 points in the post-test, a 15-point increase.

Subject A had experienced several near-divorce situations due to her husband's choleric personality and economic incompetence. During the 7th session of the self-understanding stage, where participants identified their strengths, A wrote "massage, cleaning, meticulousness, responsibility" on her left hand and her desires on the right hand. Self-disclosure occurred with expressions like "buying necessities freely, buying a house, clearing debts." Group members exchanged encouraging messages, drew blank checks, clear blue skies with clouds, and gift boxes for each other. A expressed that seeing these drawings brightened her mood, leading to laughter among all participants. This demonstrates how sharing emotions with group members, receiving encouragement and support, and developing a positive self-understanding significantly influenced the improvement of self-esteem [20].

3.4. Changes in Person Picking an Apple from a Tree (PPAT) Projective Drawing Test

Table 5, Table 6, Table 7 and Table 8 below show the PPTA (Person Picking an Apple) test results of participants A, B, C and D before and after their experience of inner exploration art therapy.

Table 5.

Analysis of PPAT Projective Drawing Test in participant A

A	Pre-test	Post-test
Formal Analysis	Illogical composition of tree and person size; weak internal energy shown by person's position or back view; low problem-solving level for apple picking	Well-composed space using side view of person and 12 colors; high logic and integration using nature elements like clouds, wind, and sunlight
Content Analysis	Exaggerated achievement needs shown by large self-image compared to tree; unstable posture with arms stretched without real energy	Standing with both feet on the ground, using tools, facing the apple; desire for warmth shown by drawing the sun; expressed wish to pick apples with others
Changes	Changed from back view to side view; well-integrated overall balance between apple, tree, and person; despite realistic anxiety, positive changes seen in expectation of help and ability to solve problems independently	

Table 6.

Analysis of PPAT Projective Drawing Test Participant B

B	Pre-test	Post-test
Formal Analysis	Back view; missing right tree trunk; illogical composition of apple, tree, and person (different apples in basket and on tree)	Front view wearing a straw hat; appropriate and diverse colors (11) used to describe objects; harmony between surroundings and subject
Content Analysis	Expression of hat, basket, and top as mesh suggests avoidance, rejection, or suppression of external world or environment	Plans to eat the best and tastiest apple (including family and acquaintances) and sell the rest; already harvested and whistling
Changes	Facing front unlike pre-test back view; desire to include more people suggests improved confidence and reduced avoidance of external world; stable form with diverse colors and appropriate space use; improved problem-solving ability shown by easy harvesting of large quantities	

Table 7.

Analysis of PPAT Projective Drawing Test in participant C

C	Pre-test	Post-test
Formal Analysis	Used 3 colors; scattered and uncontrolled line quality; supporting one large apple while seemingly falling backward on an unstable ladder	Drew multiple trees using 12 colors; complete and safe human form standing on both feet Content Analysis
Content Analysis	Suppression of desires; tendency to unconditionally agree with others' opinions and hide self (caterpillar expressed as disgusting and rejectable object); large, pointed branches represent suppressed aggression, asking to see inner wounds	Smaller trees: no tools needed as apples can be picked while looking down; observing trees from an appropriate distance
Changes	Larger self-image than tree unlike pre-test; realistic expression of person, apple, and tree showing overall stable structure; shift from unconditional belief or devotion to maintaining distance in the process of self-exploration	

Table 8.

Analysis of PPAT Projective Drawing Test in participant D

D	Pre-test	Post-test
Formal Analysis	Used 3 colors; red top and shoes but uncolored bottom; weak logic shown by picking unripe apples; two birds flying towards the tree	Appropriate coloring and logical composition of the given task; diverse colors used for tree, clothing, fruits; overall harmony with tree trunk in the center
Content Analysis	Branches leaning left indicate regression to past, expressed as longing, resentment, regret; strong desire for freedom and growth; possible distortion in perceiving reality	Described the subject as "me"; drew whole family picking apples; wished to have drawn daughters prettier; willingness to solve problems shown by use of cart
Changes	Unlike pre-test, expressed safe and warm family helping each other instead of being alone; improved problem-solving ability and composition skills with diverse color use and space organization	

4. Conclusion

This study examined the positive effects of the inner exploration art therapy program in middle-aged women from multiple perspectives, suggesting that such programs can contribute to individual psychological recovery and growth.

First, it is found that inner exploration art therapy influenced the self-recovery function with an increase in self-esteem scores in all subjects.

Second, it is found that inner exploration art therapy had a positive impact on improving self-efficacy for all subjects.

Third, it is found that inner exploration art therapy had a significant effect on middle-aged women's problem-solving abilities.

In conclusion, it is found that inner exploration art therapy positively influenced the self-recovery function of middle-aged women. As their self-esteem and self-efficacy, which had been lowered due to economic and psychological difficulties, recovered, they were shown to be able to accept themselves and approach difficult problems more positively. Participants established positive self-images and values through the processes of self-understanding, self-exploration, and self-acceptance, providing opportunities for self-growth.

Transparency:

The authors confirm that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.

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