The effectiveness of The Paradoxical Therapy Model on Behavioral Emotion Regulation, Perceived Rejection, and Cognitive State of Retirees from Bank Melli in Tehran

Fatemeh Ebrahimpour Khartoomi¹, Hossein Khedmatgozar^{2*}

¹ M.A, Department of Psychology, Garmsar Branch, Islamic Azad University, Garmsar, Iran ² Assistant Professor, Department of Psychology, Garmsar Branch, Islamic Azad University, Garmsar, Iran

* Corresponding author email address: hoseinkhedmatgozar@yahoo.com

ABSTRACT

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The current research aimed to determine the effectiveness of the paradoxical therapy model on behavioral emotion regulation, perceived rejection, and cognitive state of retirees from Bank Melli in Tehran. The study employed a quasi-experimental method with experimental and control groups in a pretest-posttest design. The population consisted of all male and female retirees of Bank Melli Tehran in 2023, and based on a convenience sampling method, 30 individuals were selected and randomly assigned to the experimental (15 individuals) and control (15 individuals) groups. The data collection tools included the Kraaij and Garnefski Behavioral Emotion Regulation Questionnaire (2019), the Leary and MacDonald Rejection Sensitivity Questionnaire (2010), and the Nejati Cognitive Skills Questionnaire (2013). The paradoxical therapy sessions comprised six 60-minute sessions held weekly. Data were analyzed using multivariate and univariate analysis of covariance with the SPSS software package. The results showed a significant difference in the linear combination of scores for behavioral emotion regulation, perceived rejection, and cognitive state of the retirees participating in this study based on the group (F = 7.669, sig = 0.0001). Furthermore, the eta-squared coefficients indicated that 78.2% of the variance in the dependent variables was accounted for by the grouping variables (experimental and control groups). Thus, the implementation of the paradoxical therapy approach has improved emotional regulation behavior and cognitive state, and reduced the scores for perceived rejection.

Keywords: Paradoxical therapy model, behavioral emotion regulation, perceived rejection, cognitive state, retirees of Bank Melli Tehran.

1. Introduction

etirement is defined as the final stage related to -employment and the separation from job-related responsibilities, organizational systems, time, and other constraints imposed by the job (1). Legally, in Iran, retirement is considered to occur after approximately 25 to 35 years of service (2). This phase of separation from the job occurs at a time when for many people, the job is a key concept in their sense of self, identity, purpose, time structure, relationships, and social participation, and it significantly affects the social relationships of retirees, their families, and their leisure time (3). Studies have shown that self-concept decreases and depression increases after retirement (4). Reports from the pension fund indicate an increasing rate of population among retirees; in the next 30 years, retirees will make up one-fourth and the elderly more than one-third of the country's total population (5). Findings have demonstrated a mix of positive and negative psychological and social changes including fear, tension, denial, anger, shock, a sense of deprivation, identity issues, difficult separation from the job, and fear of changing social connections or a sense of role loss in retirement, which if not efficiently managed, can lead to decreased quality of life and life satisfaction, and reduced self-worth and public health (6). In various theories in the field of retirement, retiring is seen as a process that impacts the individual's role and status, patterns of life, expectations, and available resources. Role theory emphasizes the importance of transitioning to retirement and exiting job roles, where sudden transitions can be factors in maladjustment and instability, necessitating management of their consequences in the individual, family relationships, and communications. Conversely, continuity theory regards retirement as an opportunity to maintain social relationships and lifestyle patterns (2). Therefore, retirement is a particularly sensitive life situation for every employed individual, requiring multiple skills for optimal adaptation. One such skill is the ability in behavioral emotion regulation; as the retirement situation requires the ability to regulate emotions positively, and individuals with emotional capability recognize their feelings against irritants, can understand their meanings, and employ effective methods to explain their emotional and affective states to others (7, 8). These individuals are more successful in coping with negative experiences and show better

adaptation compared to those who lack the skill and ability to effectively recognize and express their emotions (8). Behavioral emotion regulation as a self-regulatory behavioral skill involves strategies such as distraction, proactive engagement; efforts to seek social support, ignoring and withdrawing (7). On the other hand, the state of retirement and distance from the job can create feelings of rejection. Being rejected is a type of deprivation and being underestimated by individuals or groups. MacDonald and Leary (2005) explained that perceived rejection is a form of deprivation or being undervalued by individuals or groups. Increased sensitivity to rejection is associated with perceptions of rejection that provoke cognitive-emotional reactions and can have various psychological and communicational consequences. Social identity theory in the field of retirement focuses on group membership and identity in society, according to this theory, being part of a social group is significant, and part of individuals' selfawareness and feeling arises through group membership; thus, individuals seek to define themselves in the group, which is a positive point for them, and conversely, if they are recognized in a group contrary to their desired group, it will be a negative point for them (9). This process causes individuals in the group to feel a higher sense of their own identity and creates a positive and reassuring attitude in them (10).

On the other hand, examining the cognitive state in retirees is very important, as with increasing age, cognitive functions decrease and create challenges for retired individuals. Cognitive state is a theoretical construct recognized for linking brain structures, especially the frontal lobe, with psychological functions such as problem-solving, abstract thinking, and changing cognitive strategies, playing a significant role in individual-social functioning (11). Cognitive state is used in describing processes essential for the conscious control of thoughts, emotions, and functions (4, 12). Various approaches can be used to improve the emotional, psychological, and cognitive state of retired individuals. One emerging approach that has received considerable attention in recent years is the paradoxical therapy model. This therapeutic model is a method for emotional and psychological disorders that is theoretically and behaviorally linked to psychodynamic, systemic, and behavioral approaches (13). This therapeutic approach



consists of two components: paradox and scheduling. In this therapeutic approach, the actual symptoms of the disorder are prescribed to the patient (paradox), and the patient must advance these symptoms according to a method specified by the therapist at specific times (13). The effects of this therapeutic approach on a wide range of anxiety disorders, worries (14), obsessive-compulsive spectrum (15, 16), stress-related and trauma-related disorders, and somatic symptom disorders have been confirmed (13). Therefore, considering that no research has yet examined the effects of the paradoxical therapy model on behavioral emotion regulation, perceived rejection, and cognitive state, especially among retirees, the main issue of this research is whether the paradoxical therapy model is effective in regulating emotional behavior, perceived rejection, and cognitive state of retirees at Bank Melli Tehran?

2. Methods and Materials

2.1. Study Design and Participants

The method of the present study is a quasi-experimental design with experimental and control groups in a pretest-posttest format. The statistical population included all male and female retirees of Bank Melli Tehran in the year 2023, from which 30 individuals were selected based on a convenience sampling method and were randomly assigned to the experimental group (15 individuals) and control group (15 individuals).

The inclusion criteria for the study were: informed consent to participate in the study and having entered retirement. The exclusion criteria included: absence from more than one therapy session and incomplete responses to the questionnaires.

2.2. Measures

2.2.1. Behavioral Emotion Regulation

This is a self-report questionnaire developed by Kraaij and Garnefski in 2019. The test consists of five subscales: distraction, active engagement, seeking social support, ignoring, and withdrawal, each containing 4 items. The questionnaire is rated on a 5-point Likert scale from 1 (never) to 5 (always), and the total score for each subscale is obtained by summing the item scores, with a possible range of scores from 4 to 20 for each. The psychometric properties of this questionnaire were examined in a study by Kraaij and Garnefski (2019) with a sample of 457 adults from the general population. In their study, the reliability through Cronbach's alpha for the subscales distraction, active engagement, seeking social support, ignoring, and withdrawal was respectively 0.86, 0.91, 0.91, 0.89, and 0.93. Construct validity of the questionnaire was confirmed through exploratory factor analysis using principal component analysis, which explained 78% of the variance, while concurrent validity was established through correlations of the subscales with depression and anxiety symptoms (7). To create the Persian version of the Behavioral Emotion Regulation Questionnaire, it was first translated by a doctoral student in English literature, then reviewed and corrected by two professors of psychology. The prepared Persian version was made available to high school students to amend any clarity issues in the wording of various questions. Ashouri and colleagues (2020) examined 461 participants. The face and content validity was determined by the opinions of 9 experts, and the content validity index was obtained using Lawshe's method and Waltz and Bausell's method, and construct validity was calculated through factor analysis. Reliability of the questionnaire was determined using Cronbach's alpha and test-retest methods. The questionnaire was designed in five subscales consisting of 20 five-option questions, and both face and content validity (total content validity index = 0.84) were confirmed. The content validity index for each subscale-distraction, withdrawal, active engagement, seeking social support, and ignoring-was respectively 0.82, 0.87, 0.86, 0.87, and 0.83. The reliability of each subscale of the Behavioral Emotion Regulation Questionnaire using Cronbach's alpha method was respectively 0.88, 0.90, 0.91, 0.89, and 0.87, and test-retest reliability ranged from 0.59 to 0.66 (17).

2.2.2. Perceived Rejection

This scale was designed by Rajabi and colleagues in 2015 based on the definition of rejection sensitivity by Leary and MacDonald (2010). The test comprises 4 questions that assess perceptions of rejection. The items include: ("I feel left out", "I feel socially deprived", "I feel hated", and "I feel rejected"). Respondents are asked to indicate how often they experience these feelings on a 7-point Likert scale from 1 (never) to 7 (often). The minimum score on this questionnaire is 4 and the maximum is 28, with higher scores indicating a higher perceived rejection and lower scores indicating a lower perceived rejection. Crossley and colleagues (2016) reported that this scale serves as a valid global assessment tool that accurately measures individuals' mental experiences regarding rejection. The reliability coefficient for this scale in the study by Crossley et al. (2016) was 0.85, and in Iran, it was first used in the study by Rajabi et al. (2015) where the reliability coefficient using Cronbach's alpha method was calculated as 0.83 (18).

2.2.3. Cognitive State

This questionnaire consists of 30 questions across 7 subscales, rated on a 5-point Likert scale, assigning each question a score between 1 to 5. The subscales include memory, inhibitory control and selective attention, decision-making, planning, sustained attention, social cognition, and cognitive flexibility. The Cronbach's alpha for the questionnaire was 0.83, and the Pearson correlation between two testing occasions was significant at the 0.01 level. The findings of this study demonstrated a correlation between cognitive abilities and academic average across all subscales, significant at the 0.01 level, indicating the convergent validity of the test. The validity and reliability of this questionnaire for assessing executive functions have been reported as optimal (19-21).

2.3. Intervention

2.3.1. Paradoxical Therapy

The paradoxical therapy sessions consisted of six 60minute sessions that were conducted weekly. Each session's summary was prepared based on the therapeutic design by Dr. Mohammad Ali Besharat (2019) and is described subsequently (13):

Session One: Introduction and Goal Setting

The first session is dedicated to setting the stage for the entire therapeutic process. The therapist explains the goals of the intervention and the number of sessions, provides an overview of paradoxical therapy, and discusses its core principles. The participants are tasked with reflecting on their personal goals for the therapy, considering what changes they wish to see and how they might actively work towards these goals. This exercise aims to personalize the therapy process and engage participants from the outset.

Session Two: Instruction Creation and Artificialization

In the second session, the therapist introduces the first paradoxical technique—instruction creation and artificialization. This involves guiding participants to artificially create situations or symptoms in a controlled manner as prescribed by the therapist. Participants are tasked with carrying out specific exercises that involve reconstructing and experiencing symptoms of their conditions at pre-scheduled times. This session helps participants begin to confront and manage their symptoms in a safe and structured environment.

Session Three: Follow-Up and Practical Application

This session serves as a follow-up to ensure that participants are correctly implementing the tasks assigned in the previous session. The therapist reviews the extent to which participants have managed to reconstruct and experience their issues. The homework for this session involves scheduling three specific times throughout the day to practice the paradoxical therapy techniques that have been previously outlined, enhancing their ability to manage and alter their symptoms actively.

Session Four: Breaking the Link Between Symptoms and Anxiety

The fourth session focuses on severing the connection between the symptoms and anxiety, leading to the third mechanism—changing the personal and systemic interpretation of symptoms. Participants are encouraged to continue with the exercises, applying paradoxical therapy techniques at predetermined times. This helps in reducing the anxiety associated with symptoms by altering their usual impact and meaning.

Session Five: Strengthening Self and Managing Conflicts

In this session, the emphasis is on reinforcing the self and aiding participants in handling conflicts through the paradoxical program by identifying and breaking the link between symptoms and anxiety. Homework involves continuing the tasks and practicing the paradoxical therapy techniques at scheduled times, aiming to strengthen participants' autonomy over their emotions and reactions.

Session Six: Conclusion and Evaluation



The final session summarizes all the previous sessions, addresses any remaining questions, and concludes the intervention with the implementation of evaluations to assess the progress made by participants. This session is crucial for consolidating the therapeutic gains, discussing any changes observed, and planning any further steps or follow-up needed for the participants.

2.4. Data Analysis

Data from this study were analyzed using both descriptive (mean and standard deviation) and inferential statistics (correlation and multiple regression). Calculations were performed using SPSS software version 23.

3. Findings and Results

In the experimental group, there were 11 male participants and 4 female participants. In the control group, there were 9 male participants and 6 female participants.

Table 1

Descriptive Data for Variables

| Variable | Group | Pretest Mean | Pretest SD | Posttest Mean | Posttest SD |
|---------------------|--------------|--------------|------------|---------------|-------------|
| Distraction | Experimental | 12.33 | 3.69 | 12.86 | 2.38 |
| | Control | 10.93 | 3.34 | 11.60 | 3.24 |
| Active Engagement | Experimental | 11.66 | 3.73 | 15.33 | 3.63 |
| | Control | 13.20 | 4.50 | 12.46 | 3.66 |
| Seeking Support | Experimental | 13.80 | 4.48 | 15.13 | 3.50 |
| | Control | 12.93 | 3.28 | 13.00 | 4.11 |
| gnoring | Experimental | 13.53 | 4.08 | 9.73 | 2.54 |
| | Control | 15.73 | 3.60 | 14.26 | 4.15 |
| Withdrawal | Experimental | 11.06 | 4.63 | 8.33 | 3.16 |
| | Control | 12.06 | 4.09 | 11.93 | 3.08 |
| Perceived Rejection | Experimental | 15.46 | 4.26 | 10.40 | 3.33 |
| | Control | 16.86 | 5.11 | 16.20 | 4.54 |
| Cognitive State | Experimental | 86.53 | 11.79 | 106.93 | 13.87 |
| | Control | 98.33 | 14.69 | 97.40 | 15.44 |

According to the data, retirees from Bank Melli Tehran participating in the experimental group reported higher posttest scores compared to pre-test scores in the variables of behavioral emotion regulation and cognitive state. Conversely, their scores for the perceived rejection showed a decreasing trend from the pre-test to the post-test, suggesting the effectiveness of the paradoxical therapy approach in influencing these variables. To test the statistical hypotheses, the results of Levene's test indicated that there were no significant differences in the variances between the experimental and control groups across the dependent variables of behavioral emotion regulation, perceived rejection, and cognitive state. Additionally, the Shapiro-Wilk test confirmed the assumption of normal distribution of data scores. The results of the Box's test, with a Box's M of 45.884, an F-score of 1.190, and a significance level of 0.225, did not reject the assumption of equality of covariance matrices.

Table 2

| Results from . | Multivariate | e Analysis oj | f Covariance |
|----------------|--------------|---------------|--------------|
|----------------|--------------|---------------|--------------|

| Test | Value | F | Hypothesis DF | Error DF | Sig | Eta Squared |
|-------------------|-------|-------|---------------|----------|-------|-------------|
| Pillai's Trace | 0.782 | 7.669 | 7 | 15 | 0.001 | 0.782 |
| Wilks' Lambda | 0.218 | 7.669 | 7 | 15 | 0.001 | 0.782 |
| Hotelling's Trace | 3.579 | 7.669 | 7 | 15 | 0.001 | 0.782 |
| Largest Root | 3.579 | 7.669 | 7 | 15 | 0.001 | 0.782 |



There was a significant difference in the linear combination of scores for behavioral emotion regulation, perceived rejection, and cognitive state among the retirees of Bank Melli participating in this study, considering the group differences (F = 7.669, sig = 0.0001, Wilks' Lambda = 0.218).

Table 3

ANCOVA Analysis for Scores of Behavioral Emotion Regulation

| Variable | Source of Variation | Sum of Squares | Degrees of Freedom | Mean Square | F | Sig | Eta Squared |
|-------------------|---------------------|----------------|--------------------|-------------|--------|--------|-------------|
| Distraction | Pretest Effect | 36.648 | 1 | 36.648 | 6.513 | 0.018 | 0.221 |
| | Group Effect | 20.209 | 1 | 20.209 | 3.591 | 0.071 | 0.135 |
| | Error | 129.428 | 23 | 5.627 | | | |
| | Total | 4729.000 | 30 | | | | |
| Active Engagement | Pretest Effect | 3.470 | 1 | 3.470 | 0.709 | 0.408 | 0.030 |
| | Group Effect | 40.686 | 1 | 40.686 | 8.319 | 0.008 | 0.266 |
| | Error | 112.486 | 23 | 4.891 | | | |
| | Total | 5995.000 | 30 | | | | |
| Seeking Support | Pretest Effect | 67.609 | 1 | 67.609 | 14.148 | 0.001 | 0.381 |
| | Group Effect | 21.925 | 1 | 21.925 | 4.588 | 0.043 | 0.166 |
| | Error | 109.913 | 23 | 4.779 | | | |
| | Total | 6194.000 | 30 | | | | |
| Ignoring | Pretest Effect | 1.468 | 1 | 1.468 | 0.192 | 0.666 | 0.008 |
| | Group Effect | 126.726 | 1 | 126.726 | 16.553 | 0.0001 | 0.419 |
| | Error | 176.077 | 23 | 7.656 | | | |
| | Total | 4704.000 | 30 | | | | |
| Withdrawal | Pretest Effect | 50.420 | 1 | 50.420 | 9.335 | 0.006 | 0.289 |
| | Group Effect | 68.873 | 1 | 68.873 | 12.751 | 0.002 | 0.357 |
| | Error | 124.227 | 23 | 5.401 | | | |
| | Total | 3376.000 | 30 | | | | |

According to the information, the findings indicate that the effects of the paradoxical therapy approach on improving scores of behavioral emotion regulation among retirees of Bank Melli Tehran were significant. The paradoxical therapy-based intervention in the experimental group improved scores in behavioral emotion regulation specifically in the dimensions of active engagement and seeking social support. Moreover, by controlling for the effects of pre-test scores as a covariate, the main effect of the paradoxical therapy protocol on the post-test dimensions of ignoring and withdrawal was significant and effective,

Table 4

leading to a reduction in scores of behavioral emotion regulation in these dimensions among the retirees of Bank Melli Tehran. However, the effects of the paradoxical therapy approach on the factor of distraction efforts were not significant (p = 0.071). Eta squared coefficients also showed that the paradoxical therapy approach in the experimental group was effective and significant in improving scores for active engagement and seeking social support, as well as in ameliorating scores for ignoring and withdrawal, with percentages respectively at 26.6%, 16.6%, 41.9%, and 35.7%.

| Variable | Source of Variation | Sum of Squares | df | Mean Square | F | Sig | Eta Squared |
|---------------------|---------------------|----------------|----|-------------|--------|-------|-------------|
| Perceived Rejection | Pretest Effect | 106.525 | 1 | 106.525 | 12.756 | 0.001 | 0.321 |
| | Group Effect | 174.938 | 1 | 174.938 | 20.948 | 0.001 | 0.437 |
| | Error | 225.475 | 27 | 8.351 | | | |
| | Total | 5891.000 | 30 | | | | |

The findings demonstrate that the effects of the paradoxical therapy approach on reducing scores of

perceived rejection among the retirees of Bank Melli Tehran were significant, and the paradoxical therapy-based



Table 5

ANCOVA Analysis for Scores of Cognitive State

group was effective and significant in reducing scores of perceived rejection, with an effect size of 43.7%.

| Variable | Source of Variation | Sum of Squares | df | Mean Square | F | Sig | Eta Squared |
|-----------------|---------------------|----------------|----|-------------|--------|-------|-------------|
| Cognitive State | Pretest Effect | 4257.479 | 1 | 4257.479 | 17.472 | 0.001 | 0.393 |
| | Group Effect | 1990.861 | 1 | 1990.861 | 8.170 | 0.008 | 0.232 |
| | Error | 6579.054 | 27 | 243.669 | | | |
| | Total | 324659.000 | 30 | | | | |

Additionally, the findings indicate that the effects of the paradoxical therapy approach on improving cognitive state scores among the retirees of Bank Melli Tehran were significant, and the paradoxical therapy-based intervention in the experimental group resulted in significant improvement in cognitive state scores. The eta squared coefficients also show that the paradoxical therapy approach in the experimental group was effective and significant in enhancing cognitive state scores, with an effect size of 23.2%.

4. Discussion and Conclusion

The results indicated that the scores for behavioral emotion regulation, perceived rejection, and cognitive state of retirees from Bank Melli participating in this study were influenced by the independent variable, the implementation of the paradoxical therapy approach. These findings align with the prior research (13-16, 22). These study results demonstrated that conducting paradoxical therapy sessions effectively reduced scores for worry, rumination, thoughtaction fusion, and symptoms of obsessive-compulsive disorder. The paradoxical therapy model is extensively applicable for psychological and emotional disorders, as it relies on behavioral techniques and can effectively improve behavioral and emotional factors by altering behaviors. The paradoxical therapy approach plays an efficient role in modulating negative emotions, reducing conflicts and interpersonal relationships, and changing the meaning of these relationships and negative emotions. Paradoxical therapists, by using scheduling and employing disease symptoms (paradox in obsessions), prescribe exercises for individuals to recreate the symptoms of their problems at predetermined times and manage to regulate emotions and

express emotions successfully while receiving positive feelings to reduce the sense of rejection (13). The effective mechanisms of the paradoxical dialogue scheduling include prescription and artificialization, providing a foundation for individuals to overcome their emotions and negative thoughts during the experience of negative emotions, negative relationships, and feelings of rejection by others, using a behavioral plan. Furthermore, artificialization creates the condition for breaking the link between problems and conflicts with negative emotions (16). The technique of cutting off the link between problems and negative emotions removes these from individuals' life processes without external pressure or force, eliminating emotions that predispose to negative self-regulation behaviors such as withdrawal and ignoring, and can reduce the sense of rejection. Therefore, the use of the paradoxical therapy program can be considered a successful therapy for factors related to emotional regulation and cognitive state; because this therapeutic approach, through its two components of the paradox program and scheduling, can treat many negative thoughts and emotions (22). The feeling of rejection causes an individual to negatively assess themselves and have a pessimistic view of themselves and the world, and the use of the paradoxical therapy program can reduce the symptomatic signs of rejection in individuals through scheduling and paradox, treating them (16). This issue is highly applicable in the context of the feeling of rejection, which is a type of feeling of misunderstanding and insult due to an individual's perception of others' behaviors and words; because changing thoughts and subsequently behavioral practice can reduce many of these symptoms and negative thoughts. In the paradoxical therapy method, because the individual is required to think about their intrusive and



disturbing thoughts at a specific time schedule, through the engineering of time in the form of scheduling and the application of paradox in the form of symptom prescription, through directive techniques, the individual reconstructs and experiences their negative signs and inefficient cognitions (13). This leads to encountering these signs without stress and gradually, through processes that reinforce selfintegrity, the conflicts between the ego and super-ego in individuals end, and the individual can be more cognitively focused and effective.

Future research should consider implementing follow-up assessments to determine the longevity of the therapeutic effects, which this study lacked, potentially obscuring the persistence of the therapy's impacts. Further studies could also explore the differential impacts of paradoxical therapy across diverse demographic groups, such as different age cohorts or cultural backgrounds, to understand better the generalizability of the therapy's effectiveness. Additionally, investigating the integration of paradoxical therapy with other psychological interventions, such as cognitivebehavioral therapy or mindfulness-based practices, might provide insights into synergistic effects that could enhance therapeutic outcomes. These explorations would not only extend the current findings but also contribute to a more nuanced understanding of the mechanisms underpinning paradoxical therapy and its potential modifications to better suit various populations or specific psychological needs.

Authors' Contributions

F.E.K. conceived and designed the study, drafted the initial manuscript, and was responsible for the administration of the therapy sessions. H.K., the corresponding author, contributed to the design of the statistical analysis, performed the data analysis, and significantly revised the manuscript. Both authors have read and approved the final manuscript.

Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

Transparency Statement

Data are available for research purposes upon reasonable request to the corresponding author.

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Declaration of Interest

The authors report no conflict of interest.

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Ethics Considerations

The study placed a high emphasis on ethical considerations. Informed consent obtained from all participants, ensuring they are fully aware of the nature of the study and their role in it. Confidentiality strictly maintained, with data anonymized to protect individual privacy. The study adhered to the ethical guidelines for research with human subjects as outlined in the Declaration of Helsinki.

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