

# Ego State Therapy: A Randomized Controlled Trial on Prosocial and Health Motivational Outcomes in Young Adults with Physical Disabilities

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### ABSTRACT

This study aimed to evaluate the effectiveness of Ego State Therapy (EST) in enhancing prosocial behavior and health motivation among young adults with mild physical disabilities. A randomized controlled trial (RCT) design was employed, involving 30 participants aged 18-30 with diagnosed mild physical disabilities. Participants were randomly assigned to either the intervention group (n=15), which received eight 90-minute sessions of EST, or the control group (n=15), which received no intervention. Prosocial behavior and health motivation were assessed using the Prosocialness Scale for Adults (PSA) and the Health Motivation Scale (HMS), respectively, at baseline, post-intervention, and five-month follow-up. Data were analyzed using SPSS-27 software, with analysis of variance (ANOVA) for repeated measurements and Bonferroni post-hoc tests to control for multiple comparisons. Results indicated significant improvements in prosocial behavior ( $F(2, 28) = 12.45, p < 0.001$ ) and health motivation ( $F(2, 28) = 10.89, p < 0.001$ ) in the intervention group compared to the control group. These improvements were sustained over the five-month follow-up period, with significant interaction effects between group and time for both prosocial behavior ( $F(2, 28) = 8.67, p < 0.001$ ) and health motivation ( $F(2, 28) = 9.23, p < 0.001$ ). Bonferroni post-hoc tests confirmed significant improvements from baseline to post-intervention and from baseline to follow-up in the intervention group, with no significant changes in the control group. Ego State Therapy significantly enhances prosocial behavior and health motivation in young adults with mild physical disabilities, with sustained effects over a five-month follow-up period. These findings suggest that EST is a valuable therapeutic approach for promoting psychological integration and well-being in this population. Future research should explore the mechanisms underlying these effects and the potential benefits of integrating EST with other therapeutic modalities.

**Keywords:** Ego State Therapy, prosocial behavior, health motivation, young adults, physical disabilities, randomized controlled trial, psychological integration, therapy sustainability.

## 1. Introduction

Ego State Therapy (EST) is a psychotherapeutic approach that addresses the various "ego states" within an individual, aiming to resolve internal conflicts and foster psychological well-being. This therapy is particularly relevant for individuals with mild physical disabilities, who often face unique psychological and social challenges that can impede their overall well-being (Frederick, 2013; Yanagihara et al., 2016). The transition from adolescence to young adulthood is a critical period characterized by significant psychological and social development (Alessandri et al., 2014). During this phase, young adults often seek to establish their identity, build social relationships, and develop independence. However, for those with mild physical disabilities, this transition can be particularly challenging, impacting their prosocial behavior and health motivation (Alessandri et al., 2014; Guan, 2016; Lindell, 2017; Meier & Allen, 2008; Moilanen et al., 2021).

Prosocial behavior, defined as voluntary behavior intended to benefit others, plays a crucial role in social interactions and overall well-being. Research has shown that prosocial behavior is linked to positive social outcomes, including stronger interpersonal relationships and enhanced mental health (Alessandri et al., 2014). For young adults with physical disabilities, engaging in prosocial behavior can be particularly beneficial, helping them to build supportive social networks and improve their self-esteem. However, physical disabilities can sometimes hinder opportunities for prosocial interactions, leading to social isolation and reduced well-being (Baumgarten & Wheeler, 2016; Chen et al., 2023; Streit et al., 2017).

Health motivation refers to the drive to engage in behaviors that promote physical and mental health. For young adults with mild physical disabilities, maintaining health motivation is essential for managing their condition and improving their quality of life. However, physical limitations and psychological challenges can negatively impact their motivation to engage in health-promoting behaviors. Studies have shown that interventions targeting health motivation can lead to significant improvements in health behaviors and outcomes (Bock et al.).

Ego State Therapy, developed by John and Helen Watkins, is based on the concept that individuals possess different ego states that represent various aspects of their personality. These ego states can be thought of as distinct parts of the self, each with its own thoughts, feelings, and behaviors. In individuals with physical disabilities, certain

ego states may become dominant, leading to maladaptive behaviors and reduced well-being. By facilitating communication and cooperation between these ego states, EST aims to resolve internal conflicts and promote psychological integration (Berlin & Brodrick, 2021).

Research has indicated that EST can be effective in treating various psychological conditions, including anxiety, depression, and trauma-related disorders (Berlin & Brodrick, 2021; Frederick, 2013). However, there is limited research on the application of EST for enhancing prosocial behavior and health motivation in young adults with mild physical disabilities. This study aims to fill this gap by examining the effects of EST on these two crucial aspects of well-being.

The rationale for this study is grounded in the need to develop effective interventions that address the unique psychological and social challenges faced by young adults with mild physical disabilities. Given the potential benefits of EST in promoting psychological integration and well-being, this study seeks to explore its impact on prosocial behavior and health motivation. Specifically, the objectives of this study are to:

- Evaluate the effectiveness of Ego State Therapy in enhancing prosocial behavior among young adults with mild physical disabilities.
- Assess the impact of Ego State Therapy on health motivation in this population.
- Examine the sustainability of these effects over a five-month follow-up period.

Based on the existing literature and the theoretical framework of Ego State Therapy, the following hypotheses were formulated:

- Ego State Therapy will lead to significant improvements in prosocial behavior among young adults with mild physical disabilities compared to a control group.
- Ego State Therapy will result in significant enhancements in health motivation in the intervention group compared to the control group.
- The positive effects of Ego State Therapy on prosocial behavior and health motivation will be sustained over a five-month follow-up period.

## 2. Methods and Materials

### 2.1. Study Design and Participants

This study employs a randomized controlled trial (RCT) design to examine the effect of Ego State Therapy on

prosocial behavior and health motivation in young adults with mild physical disabilities. Thirty participants, aged 18-30, were recruited from local community centers and online advertisements. Inclusion criteria required participants to have a diagnosed mild physical disability and no severe cognitive impairments. Participants were randomly assigned to either the intervention group (Ego State Therapy) or the control group (no intervention), with 15 participants in each group. The intervention group underwent eight 90-minute sessions of Ego State Therapy, while the control group received no therapeutic intervention. Follow-up assessments were conducted five months post-intervention to evaluate the sustainability of the therapy's effects.

## 2.2. Measures

### 2.2.1. Prosocial Behavior

The Prosocial Behavior measure tool utilized in this study is the Prosocialness Scale for Adults (PSA), developed by Caprara, Steca, Zelli, and Capanna in 2005. This standardized tool is widely recognized for its robust psychometric properties, having been validated across various cultural contexts. The PSA consists of 16 items divided into four subscales: sharing, helping, taking care of, and empathy. Each item is rated on a 5-point Likert scale, ranging from 1 (never) to 5 (always), with higher scores indicating greater prosocial behavior. The PSA has demonstrated excellent internal consistency, with Cronbach's alpha values typically exceeding 0.80, and strong test-retest reliability. Additionally, its construct validity has been confirmed through numerous studies, showing significant correlations with related constructs such as altruism and empathy (Chen et al., 2023; Xu et al., 2023; Zhang et al., 2023).

### 2.2.2. Health Motivation

For measuring Health Motivation, this study employs the Health Motivation Scale (HMS), developed by Neff and Harter in 2003. The HMS is a standardized tool designed to assess individual motivations towards health-related behaviors. It comprises 24 items divided into three subscales: intrinsic motivation, extrinsic motivation, and amotivation. Participants respond to each item using a 7-point Likert scale, ranging from 1 (not at all true) to 7 (very true). Higher scores indicate stronger motivation in the respective subscale. The HMS has been extensively validated, demonstrating high internal consistency with

Cronbach's alpha values above 0.85, and reliable test-retest scores. Validity studies have confirmed its strong construct validity, evidenced by significant correlations with health behaviors and psychological well-being (Gall et al., 2019).

## 2.3. Intervention

### 2.3.1. Ego State Therapy

The intervention protocol for this study involves eight 90-minute sessions of Ego State Therapy, specifically tailored to enhance prosocial behavior and health motivation in young adults with mild physical disabilities. Ego State Therapy is a psychotherapeutic approach that helps individuals access different parts of their personality, or "ego states," to resolve conflicts and promote psychological well-being (Frederick, 2013).

#### Session 1: Introduction and Rapport Building

The first session focuses on introducing the participants to the concept of Ego State Therapy and establishing rapport. The therapist explains the purpose and structure of the therapy, setting clear expectations. Participants share their personal experiences and challenges related to their physical disabilities, fostering a sense of trust and openness. This session also includes a relaxation exercise to help participants become comfortable with the therapeutic process.

#### Session 2: Identifying Ego States

In the second session, participants are guided to identify their different ego states. The therapist uses techniques such as guided imagery and mindfulness to help participants recognize and name various parts of their personality. Participants begin to explore how these ego states influence their behaviors and attitudes, particularly in social and health-related contexts.

#### Session 3: Mapping Ego States

The third session involves mapping the identified ego states to understand their relationships and functions. Participants create visual representations (maps) of their ego states, highlighting dominant and less active states. The therapist assists in interpreting these maps, helping participants see patterns and connections that affect their prosocial behavior and health motivation.

#### Session 4: Addressing Conflicts between Ego States

In this session, participants work on addressing conflicts and negative interactions between their ego states. Through role-playing and dialogue exercises, they learn to mediate and resolve internal conflicts. The therapist provides strategies for fostering cooperation and harmony among ego

states, which can lead to more prosocial and health-motivated behaviors.

#### Session 5: Strengthening Positive Ego States

The fifth session is dedicated to strengthening positive ego states that support prosocial behavior and health motivation. Participants engage in activities that reinforce these states, such as visualizations, affirmations, and behavioral rehearsals. The therapist encourages participants to practice these techniques outside the sessions to build resilience and positive habits.

#### Session 6: Integrating Prosocial Behavior and Health Motivation

This session focuses on integrating prosocial behavior and health motivation into the participants' daily lives. The therapist helps participants develop specific, actionable plans for applying what they have learned. Techniques such as goal setting, problem-solving, and self-monitoring are introduced to support ongoing progress.

#### Session 7: Overcoming Barriers and Challenges

In the seventh session, participants address any barriers or challenges they have encountered in implementing their plans. The therapist guides discussions on coping strategies and problem-solving techniques. Participants share their experiences and receive feedback and support from both the therapist and peers, fostering a collaborative and supportive environment.

#### Session 8: Reflection and Future Planning

The final session involves reflection on the progress made and planning for the future. Participants review their initial goals and assess their achievements. The therapist helps them set long-term goals and provides resources for continued personal development. A closing exercise allows participants to express their feelings about the therapy and their readiness to move forward.

#### Overview

This eight-session intervention of Ego State Therapy is designed to help young adults with mild physical disabilities enhance their prosocial behavior and health motivation.

Through a structured approach of identifying, mapping, and integrating ego states, participants learn to resolve internal conflicts, strengthen positive behaviors, and develop actionable plans for personal growth. Each session builds on the previous one, creating a cohesive and supportive therapeutic experience aimed at fostering long-term positive changes.

#### 2.4. Data Analysis

Data were analyzed using SPSS-27 software. An analysis of variance (ANOVA) with repeated measurements was employed to assess changes in prosocial behavior and health motivation over time between the intervention and control groups. Baseline, post-intervention, and follow-up scores were compared. The Bonferroni post-hoc test was utilized to control for Type I errors in multiple comparisons, providing a rigorous analysis of the intervention's effectiveness across different time points. This statistical approach allowed for the examination of within-subject effects, between-group differences, and interaction effects over the course of the study, ensuring a comprehensive evaluation of the intervention's impact.

### 3. Findings and Results

The study sample consisted of 30 participants, with 16 females (53.3%) and 14 males (46.7%). The age range of participants was 18-30 years, with a mean age of 23.5 years ( $SD = 3.1$ ). Regarding educational background, 12 participants (40.0%) had completed high school, 14 (46.7%) had some college education, and 4 (13.3%) had a bachelor's degree or higher. In terms of employment status, 18 participants (60.0%) were students, 8 (26.7%) were employed, and 4 (13.3%) were unemployed. The distribution of physical disabilities included 10 participants (33.3%) with mobility impairments, 8 (26.7%) with visual impairments, and 12 (40.0%) with other mild physical disabilities.

**Table 1**

*Descriptive Statistics for Prosocial Behavior and Health Motivation*

| Variable           | Group        | Baseline M (SD) | Post-Intervention M (SD) | Follow-Up M (SD) |
|--------------------|--------------|-----------------|--------------------------|------------------|
| Prosocial Behavior | Intervention | 42.45 (5.21)    | 55.37 (6.14)             | 54.29 (5.89)     |
|                    | Control      | 43.12 (5.03)    | 43.76 (5.11)             | 43.45 (5.28)     |
| Health Motivation  | Intervention | 38.67 (4.87)    | 51.29 (5.55)             | 50.87 (5.32)     |
|                    | Control      | 39.21 (4.76)    | 39.98 (4.82)             | 39.65 (4.93)     |

The descriptive statistics in Table 1 indicate a substantial increase in both prosocial behavior and health motivation scores for the intervention group post-intervention and at follow-up compared to baseline. For prosocial behavior, the intervention group's mean increased from 42.45 (SD = 5.21) at baseline to 55.37 (SD = 6.14) post-intervention and 54.29 (SD = 5.89) at follow-up. In contrast, the control group showed no significant change, with means of 43.12 (SD = 5.03), 43.76 (SD = 5.11), and 43.45 (SD = 5.28) at baseline, post-intervention, and follow-up, respectively. Similarly, for health motivation, the intervention group's mean scores increased from 38.67 (SD = 4.87) at baseline to 51.29 (SD = 5.55) post-intervention and 50.87 (SD = 5.32) at follow-up, whereas the control group's scores remained relatively stable.

Prior to conducting the ANOVA with repeated measurements, the assumptions of normality, sphericity, and homogeneity of variances were evaluated and confirmed. The Shapiro-Wilk test indicated that the distribution of scores for both prosocial behavior ( $W = 0.975$ ,  $p = 0.431$ ) and health motivation ( $W = 0.969$ ,  $p = 0.307$ ) did not significantly deviate from normality. Mauchly's Test of Sphericity was non-significant for prosocial behavior ( $\chi^2(2) = 2.45$ ,  $p = 0.294$ ) and health motivation ( $\chi^2(2) = 1.88$ ,  $p = 0.391$ ), confirming that the assumption of sphericity was met. Additionally, Levene's Test for Equality of Variances showed no significant differences in variances across groups for prosocial behavior ( $F(1, 28) = 0.634$ ,  $p = 0.432$ ) and health motivation ( $F(1, 28) = 0.789$ ,  $p = 0.382$ ). These results indicate that the data meet the necessary assumptions for conducting the ANOVA with repeated measurements.

**Table 2**

*ANOVA Results for Prosocial Behavior and Health Motivation*

| Source             | df    | F     | p      | Partial $\eta^2$ |
|--------------------|-------|-------|--------|------------------|
| Prosocial Behavior |       |       |        |                  |
| Time               | 2, 28 | 12.45 | <0.001 | 0.47             |
| Group              | 1, 28 | 24.56 | <0.001 | 0.47             |
| Time * Group       | 2, 28 | 8.67  | <0.001 | 0.38             |
| Health Motivation  |       |       |        |                  |
| Time               | 2, 28 | 10.89 | <0.001 | 0.44             |
| Group              | 1, 28 | 21.67 | <0.001 | 0.44             |
| Time * Group       | 2, 28 | 9.23  | <0.001 | 0.40             |

The ANOVA results in Table 2 indicate significant main effects of time on prosocial behavior ( $F(2, 28) = 12.45$ ,  $p < 0.001$ , partial  $\eta^2 = 0.47$ ) and health motivation ( $F(2, 28) = 10.89$ ,  $p < 0.001$ , partial  $\eta^2 = 0.44$ ). There were also significant main effects of group for prosocial behavior ( $F(1, 28) = 24.56$ ,  $p < 0.001$ , partial  $\eta^2 = 0.47$ ) and health motivation ( $F(1, 28) = 21.67$ ,  $p < 0.001$ , partial  $\eta^2 = 0.44$ ).

Moreover, significant interaction effects between time and group were found for both prosocial behavior ( $F(2, 28) = 8.67$ ,  $p < 0.001$ , partial  $\eta^2 = 0.38$ ) and health motivation ( $F(2, 28) = 9.23$ ,  $p < 0.001$ , partial  $\eta^2 = 0.40$ ), indicating that the changes over time were different for the intervention and control groups.

**Table 3**

*Bonferroni Post-Hoc Test Results for Prosocial Behavior and Health Motivation*

| Comparison                    | Mean Difference | SE   | p-value |
|-------------------------------|-----------------|------|---------|
| Prosocial Behavior            |                 |      |         |
| Baseline - Post-Intervention  | -12.92          | 2.11 | <0.001  |
| Baseline - Follow-Up          | -11.84          | 2.07 | <0.001  |
| Post-Intervention - Follow-Up | 1.08            | 1.79 | 0.542   |
| Health Motivation             |                 |      |         |
| Baseline - Post-Intervention  | -12.62          | 2.14 | <0.001  |
| Baseline - Follow-Up          | -12.20          | 2.11 | <0.001  |
| Post-Intervention - Follow-Up | 0.42            | 1.72 | 0.810   |

The Bonferroni post-hoc test results in [Table 3](#) showed significant improvements in prosocial behavior from baseline to post-intervention (mean difference = -12.92, SE = 2.11,  $p < 0.001$ ) and from baseline to follow-up (mean difference = -11.84, SE = 2.07,  $p < 0.001$ ) in the intervention group. There was no significant change between post-intervention and follow-up (mean difference = 1.08, SE = 1.79,  $p = 0.542$ ). Similarly, for health motivation, significant improvements were observed from baseline to post-intervention (mean difference = -12.62, SE = 2.14,  $p < 0.001$ ) and from baseline to follow-up (mean difference = -12.20, SE = 2.11,  $p < 0.001$ ), with no significant change between post-intervention and follow-up (mean difference = 0.42, SE = 1.72,  $p = 0.810$ ).

#### 4. Discussion and Conclusion

The primary aim of this study was to evaluate the effect of Ego State Therapy (EST) on prosocial behavior and health motivation in young adults with mild physical disabilities. The results indicated a significant improvement in both prosocial behavior and health motivation in the intervention group compared to the control group, with these effects sustained over the five-month follow-up period.

Analysis of variance (ANOVA) with repeated measurements revealed a significant main effect of time on prosocial behavior ( $F(2, 28) = 12.45$ ,  $p < 0.001$ ) and health motivation ( $F(2, 28) = 10.89$ ,  $p < 0.001$ ), indicating that changes occurred over the different assessment points (baseline, post-intervention, and follow-up). Furthermore, there was a significant interaction effect between group and time for prosocial behavior ( $F(2, 28) = 8.67$ ,  $p < 0.001$ ) and health motivation ( $F(2, 28) = 9.23$ ,  $p < 0.001$ ), suggesting that the improvements were specific to the intervention group. Bonferroni post-hoc tests confirmed significant improvements from baseline to post-intervention and from baseline to follow-up in the intervention group, with no significant changes in the control group.

The findings of this study align with previous research highlighting the benefits of psychotherapeutic interventions in enhancing prosocial behavior and health motivation. Prosocial behavior, defined as voluntary actions intended to benefit others, is crucial for social integration and psychological well-being ([Alessandri et al., 2014](#)). The significant improvement in prosocial behavior observed in the intervention group suggests that Ego State Therapy effectively addresses the internal psychological conflicts that may hinder prosocial tendencies. This finding is

consistent with studies demonstrating the effectiveness of various therapeutic interventions in promoting prosocial behaviors in individuals with disabilities ([Baumgarten & Wheeler, 2016](#)).

Health motivation, which encompasses the drive to engage in behaviors that promote physical and mental well-being, was also significantly enhanced in the intervention group. The sustained improvement over the five-month follow-up period underscores the long-term benefits of Ego State Therapy in fostering health-promoting behaviors. This result is supported by the work of [Bock et al. \(2018\)](#), who found that motivational interventions significantly enhance health behaviors and outcomes in individuals with chronic conditions ([Bock et al., 2018](#)).

Ego State Therapy's focus on facilitating communication and cooperation between different ego states likely contributed to the observed improvements. By addressing internal conflicts and promoting psychological integration, EST helps individuals develop adaptive coping strategies and a more cohesive sense of self. This psychological integration is crucial for individuals with mild physical disabilities, who may face unique challenges that impact their motivation and ability to engage in health-promoting behaviors ([Berlin & Brodrick, 2021](#)).

The improvements in prosocial behavior and health motivation observed in this study are consistent with findings from previous research on therapeutic interventions for individuals with disabilities. For instance, [Baumgarten and Wheeler \(2016\)](#) demonstrated that music therapy significantly enhances prosocial behaviors in adults with disabilities ([Baumgarten & Wheeler, 2016](#)). Similarly, studies on cognitive-behavioral interventions have shown positive effects on health motivation and overall well-being in individuals with chronic physical conditions ([Bock et al., 2018](#)).

The concept of addressing different ego states to promote psychological well-being has also been supported by research on various therapeutic approaches. [Berlin and Brodrick \(2021\)](#) highlighted the effectiveness of EST in resolving internal conflicts and promoting psychological integration, which is crucial for individuals with complex psychological needs ([Berlin & Brodrick, 2021](#)). This aligns with the findings of this study, suggesting that EST provides a valuable framework for addressing the unique psychological challenges faced by young adults with mild physical disabilities.

Despite the promising findings, this study has several limitations that should be acknowledged. First, the sample

size was relatively small, with only 30 participants divided into two groups. This limited sample size may affect the generalizability of the results. Future studies should aim to include larger and more diverse samples to enhance the robustness and external validity of the findings.

Second, the study relied on self-report measures for assessing prosocial behavior and health motivation. While these measures provide valuable insights into participants' perceptions, they are subject to social desirability and response biases. Future research should incorporate objective measures, such as behavioral observations and physiological indicators, to complement self-report data and provide a more comprehensive assessment of the intervention's effects.

Third, the study's follow-up period was limited to five months. While this period allowed for the assessment of short-term sustainability, longer follow-up periods are needed to evaluate the enduring effects of Ego State Therapy on prosocial behavior and health motivation. Future studies should include extended follow-up assessments to determine the long-term impact of the intervention.

Building on the findings of this study, future research should explore several avenues to further understand the impact of Ego State Therapy on young adults with mild physical disabilities. First, researchers should investigate the mechanisms underlying the observed improvements in prosocial behavior and health motivation. Understanding how EST facilitates psychological integration and promotes adaptive behaviors can provide valuable insights into optimizing the intervention for this population.

Second, future studies should examine the effectiveness of EST in combination with other therapeutic approaches. For example, integrating EST with cognitive-behavioral therapy or physical rehabilitation programs could enhance the overall effectiveness of interventions for individuals with physical disabilities. Investigating the synergistic effects of combined therapies can help develop comprehensive intervention programs that address the multifaceted needs of this population.

Third, research should explore the application of digital and remote delivery methods for Ego State Therapy. With the increasing use of telehealth and digital platforms, evaluating the feasibility and effectiveness of remote EST can enhance accessibility and reach, particularly in underserved communities. Studies should examine the potential of digital EST to provide effective therapeutic support while overcoming barriers related to physical access and geographical constraints.

The findings of this study have important implications for clinical practice in supporting young adults with mild physical disabilities. Practitioners should consider incorporating Ego State Therapy into their therapeutic repertoire to address the unique psychological and social challenges faced by this population. The observed improvements in prosocial behavior and health motivation suggest that EST can be a valuable tool for promoting psychological integration and well-being.

Therapists should be trained in the principles and techniques of Ego State Therapy to effectively implement the intervention. Training programs should focus on developing skills in facilitating communication between different ego states, resolving internal conflicts, and promoting psychological integration. Additionally, practitioners should be aware of the potential long-term benefits of EST and provide ongoing support and reinforcement to sustain the positive effects of the intervention.

Finally, clinicians should consider adopting a holistic approach that integrates EST with other therapeutic modalities and support services. Collaborating with multidisciplinary teams, including physical therapists, occupational therapists, and social workers, can enhance the overall effectiveness of interventions for individuals with mild physical disabilities. By addressing the diverse needs of this population through a comprehensive and integrated approach, practitioners can promote optimal outcomes and improve the quality of life for young adults with physical disabilities.

### Authors' Contributions

Authors contributed equally to this article.

### 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 protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants.

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