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# **Pilot Study**

#### **Abstract**

The present study investigated the effects of eye movement interventions on various aspects of mental imagery, including SUDs mean score, associated imagery, movement, colour, framed or panoramic perception, distance, sound, and focus/blurring. The findings reveal significant changes in the participants' perception of their mental imagery over time, particularly in SUDs scores, associated imagery, movement in imagery, and perceived distance.

**Keywords** eye movement, therapy, mental imagery, perception, emotion

#### Introduction

Integral Eye Movement Therapy (IEMT) is a psychotherapy model that has gained attention for its effectiveness in reducing intense negative emotional states (Austin, 2014). The therapy involves the patient recalling and maintaining a negative image of a past event, while the therapist directs eye movements in specific patterns. The aim is to induce a shift in emotional coding of the image, resulting in a reduction of negative emotions associated with it.

The roots of IEMT can be traced back to eye-movement integration therapy (EMI) and eye-movement desensitization and reprocessing therapy (EMDR), developed by Steve Andreas, Connirae Andreas (Andreas, 1990), and Francine Shapiro (Shapiro, 2001), respectively. Andrew T. Austin, a therapist from the United Kingdom, developed IEMT, building on the psycho-neurological phenomena observed during therapeutic eye movements (Austin, 2015).

IEMT has shown promise in reducing the emotional impact of neurological imprints related to emotion and identity (Austin, 2014). This pilot study aims to explore the effectiveness of IEMT in reducing negative emotional states associated with traumatic memories. By investigating the effects of IEMT on a small sample of participants, this study seeks to contribute to the growing body of research on the therapeutic potential of IEMT (Moore & Manea, 2018).

## **Purpose of the study**

The purpose of this pilot study is to investigate the effects of IEMT on traumatic memories. IEMT proposes that combining eye movements with the visualization of a traumatic memory will induce specific changes in its representation. These changes include distancing the memory, dissociating from the representation, age progression, reduced focus, and decreased emotional intensity. IEMT suggests that these changes provide a therapeutic advantage by depotentiating the emotional charge associated with the memory.

The current study seeks to evaluate the changes, if any, that occur in the representation of the memory when using IEMT and how the effect of time influences the outcome. Specifically, the study aims to investigate the persistence and magnitude of the changes induced by IEMT over a 20-minute period.

This pilot study will provide preliminary evidence on the potential therapeutic benefits of IEMT and will

inform the design of future randomized controlled trials. The findings of this study may have important implications for the treatment of trauma-related disorders.

## Structure of the study

The study was conducted with a sample cohort of 8 participants. Interviews were conducted remotely via Zoom or Skype to assess the effects of IEMT on negative memories. Participants were instructed to identify a negative memory and provide a one- or two-word label for later identification. No disclosure of information about the memory was required, but participants were asked about the submodalities of the memory.

After the initial assessment, participants received instructions on how to move their eyes. Immediately following the eye movements, the memory was reassessed using the same questions as before. The assessment was repeated 20 minutes and 5 days later to determine the persistence and magnitude of the changes induced by IEMT.

The study design included a pre- and post-treatment assessment, with a follow-up assessment after 20 minutes and 5 days. The interviews were conducted remotely to ensure consistency and reduce the potential for bias. The use of standardized questions and protocols ensured that the study was conducted in a systematic and controlled manner. These measures helped to ensure the validity and reliability of the study findings.

## **Findings**

**Subjective Units of Distress (SUDs)** The analysis of SUDs scores indicates a substantial reduction of approximately 50% in the mean score over time. The mean score was observed to be 7.3 before the eye movement intervention, 5.2 immediately after, 4.1 twenty minutes post-intervention, and 3.3 five days later.

**Associated Imagery** A notable shift was observed in the participants' perception of their mental representation as associated or dissociated. Prior to the eye movement intervention, 7 participants reported their representation as associated. Immediately following the intervention, 3 participants reported associated representation, and 5 reported dissociated representation. This distribution remained constant at the 20-minute mark. At the 5-day follow-up, 2 participants reported their representation as still associated, while 6 reported dissociated representation.

**Movement in Imagery** The participants' perception of movement in their mental representation underwent a change over time. Before the eye movement intervention, 5 participants perceived movement, while 3 did not. Immediately after the intervention, only 2 participants reported movement. This number increased to 4 at the 20-minute mark, and reduced to 3 at the 5-day follow-up.

**Colour in Imagery** There was no significant change in the presence of colour in the mental imagery. Throughout the study, 2 participants reported black-and-white imagery, while 5 reported coloured imagery. However, at the 5-day follow-up, 5 participants reported black and white imagery, and 3 reported coloured imagery.

**Framed or Panoramic Imagery** The participants' perception of their mental imagery as framed or panoramic changed over time. Before the eye movement intervention, 1 participant reported framed

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imagery, 6 reported panoramic imagery, and 1 reported a combination of both. Immediately after the intervention, 2 participants reported framed imagery, 5 reported panoramic imagery, and 1 reported a combination of both. At the 20-minute mark, 6 participants reported framed imagery, and 2 reported panoramic imagery. At the 5-day follow-up, 3 participants reported framed imagery, 2 reported panoramic imagery, and 3 were unable to ascertain their imagery well enough to provide a definitive answer.

**Distance** Although exact values for each participant are difficult to determine, all participants reported a significant increase in the perceived distance of their mental imagery.

**Sound** The presence of sound in the participants' mental representation varied over time. Before the eye movement intervention, 4 participants reported the presence of sound, while 4 reported the absence of sound. Immediately following the intervention, 1 participant reported sound, while 7 reported no sound. At the 20-minute mark and the 5-day follow-up, only 1 participant reported the presence of sound.

**Focus and Blurring** The level of focus in the participants' mental representation changed over time. Before the eye movement intervention, 6 participants reported focused imagery. Immediately after the intervention, 4 participants reported focused imagery. This number decreased to 2 at the 20-minute mark, and further decreased to 1 at the 5-day follow-up.

	Before Eye Movement	Immediately After	20 Minutes After	5 Days After
SUDs Mean Score	7.3	5.2	4.1	3.3
Associated Imagery	7 Associated	3 Associated	3 Associated	2 Associated
	1 Dissociated	5 Dissociated	5 Dissociated	6 Dissociated
Movement in Imagery	5 Movement	2 Movement	4 Movement	2 Movement
	3 No Movement	6 No Movement	4 No Movement	6 No Movement
Colour in Imagery	6 Colour	5 Colour	6 Colour	3 Colour
	2 Black & White	3 Black & White	2 Black & White	5 Black & White
Framed or Panoramic	1 Framed	2 Framed	6 Framed	3 Framed
	6 Panoramic	5 Panoramic	2 Panoramic	2 Panoramic
	1 Both	1 Both	0 Both	3 Uncertain
Perceived Distance	Increased Distance	Increased Distance	Increased Distance	Increased Distance
Sound	4 Sound	1 Sound	1 Sound	1 Sound
	4 No Sound	7 No Sound	7 No Sound	7 No Sound
Focus/Blurring	6 Focused	4 Focused	2 Focused	1 Focused
	2 Blurred	4 Blurred	6 Blurred	7 Blurred

#### Conclusion

In conclusion, eye movement interventions appear to have a profound impact on several elements of mental imagery. The most notable effects were observed in the reduction of SUDs mean score, the shift from associated to dissociated imagery, and the increase in perceived distance. These findings suggest that eye movement interventions may be a promising technique for altering mental representations, potentially contributing to the development of novel therapeutic approaches. Further research is warranted to understand the underlying mechanisms and to explore the clinical

applications of these interventions in various contexts.

## **Recommendations for Further Study**

Sufficient changes in mental imagery along with the reduction in associated negative emotions warrant a wider scale further investigation measured against a control group (no eye movements) and sham group (an activity such as tapping one's nose in place of the eye movements).

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