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The Effectiveness of Image Transformation Therapy in the Treatment of Post-Traumatic Stress Disorder

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Abstract

Image Transformation Therapy (ImTT) is a novel approach to psychological treatment for post-traumatic stress disorder (PTSD). ImTT utilizes breathing and visualization techniques to release feelings and eliminate the images associated with past events. This study evaluates the effectiveness of ImTT for the treatment of PTSD. Participants were divided into an immediate treatment group (n = 26) and a waitlist/control group (n = 25). They received five 75-minute sessions, with a follow-up approximately 18 weeks later. The PTSD Checklist for DSM-5 (PCL-5) was used as the dependent variable. At week 6, the results showed an 82.51% decrease in symptoms for the treatment group compared to a 7.73% decrease for the control group. The results indicate that ImTT may be an effective and efficient short-term treatment for PTSD.

Keywords: trauma, post-traumatic stress disorder, PTSD Checklist for DSM-5, Image Transformation Therapy

The trial was not registered.

Introduction

Post-traumatic stress disorder (PTSD) is a problematic response to trauma that diminishes quality of life, disrupts daily functioning, and causes distress. Approximately 8.3% of people in the US are afflicted with PTSD within their lifetime, and 4.7% of the US population met criteria for PTSD during the past year (Kilpatrick et al., 2013). According to the United States Department of Veterans Affairs (2025), PTSD symptoms are marked by hyperarousal (e.g., hypervigilance, large reactivity response), reexperiencing (e.g., flashbacks, nightmares), and avoidance (e.g., avoiding thoughts of and places that remind one of the event), as well as changes

to cognitive and emotional functioning. Moreover, PTSD symptoms appear to affect crucial daily life activities and quality of life. For example, PTSD affects sleep quality, including difficulty initiating and maintaining sleep and experiencing nightmares (e.g., Babson & Feldner, 2010). PTSD is associated with difficulty experiencing and expressing emotions and controlling emotion-driven behaviors (e.g., Weiss et al., 2018). These emotional issues are likely linked to the known adverse effects of PTSD on interpersonal relationships, including detrimental effects on self-awareness, intimacy, sexual functioning, and communication (e.g., McFarlane & Bookless, 2001), which can create difficulties in maintaining close relationships. PTSD can confer risk for other psychiatric difficulties, such as onset of substance use disorders (e.g., Blakey et al., 2018) and eating disorders (e.g., Sommer et al., 2018). The prevalence, symptom presentation, and associated features suggest that many people are affected by this debilitating mental health issue who need treatment to improve their quality of life.

Therefore, research has been devoted to treatments aimed at alleviating PTSD symptoms. Numerous treatments have demonstrated effectiveness, including cognitive processing therapy (Asmundson et al., 2019), prolonged exposure (Foa et al., 2018), cognitive behavioral therapy (Hofmann et al., 2012), , narrative therapy (Lely et al., 2019), , eye movement desensitization and reprocessing (EMDR; de Jongh et al., 2019),. Despite their demonstrated efficacy in treating PTSD, three limitations remain: many therapies have high attrition levels due to patients' aversion to the treatment, they produce only modest effects, and the most potent therapies take considerable time and effort.

First, because many current therapies involve working through trauma via recounting the traumatic event in some form, patients develop an aversion to the process and often drop out before therapy completion. Specifically, these therapies range from simply talking about the

trauma to conducting formal imaginal and in vivo exposures, in which clients are exposed to the event's details, confronting situations they avoid, and exposing themselves to undesired emotions and/or interoceptive sensations. Often, clients respond to this type of re-exposure with hesitation, fear, and resistance. For example, Najavits (2015) reported a marine's experience with Prolonged Exposure (PE) therapy in which he experienced nausea, worsened insomnia, and out-of-control behaviors. Eftekhari et al. (2020) reported that of 2,606 patients treated for PTSD at the VA, which entails eight to 15 sessions for therapy completion, 782 (30%) completed less than eight sessions of PE. Clinicians attributed dropout to distress or avoidance in 45% of patients. Foa et al. (2002) found that 20 out of 76 participants reported reliable exacerbations of PTSD, anxiety, or depression symptoms during PE.

To enhance clinical efficacy, some psychologists have investigated whether more intensive therapies or combining several existing treatments known to be effective would produce larger effects (Ehlers et al., 2014; Klaeth et al., 2024). For example, Klaeth et al. (2024) combined EMDR, PE, and physical exercise. In the results, 44–48% no longer met diagnostic criteria for PTSD, and the pre- to post-treatment change was large (Cohen's d = 1.32). Unfortunately, this study lacked a control group for comparison, making it difficult to discern the true (between-group) effect size. In another study that did use a waitlist control for comparison (Ehlers et al., 2014), only a *single* therapeutic approach (intensive cognitive therapy over 7 days) yielded a within-group (i.e., pre- to post-treatment) effect size of 1.95, although it showed a lesser effect size (1.57) between the therapy and waitlist groups. Though the effect sizes in the studies were large, they reported that psychological issues continued to persist even though the participants no longer met the Clinician Administered PTSD Scale diagnosis for PTSD (see Foa

et al., 2018 for other approaches, e.g., PE and present-centered therapy, which also yielded modest effects).

The third issue with existing therapies is that they are time- and labor-intensive. The gold standard for treating PTSD (i.e., PE) consists of 8–15 90-minute sessions, with between-session in vivo exposures and homework (Sloan et al., 2023). For example, in Klaeth et al.'s (2024) study (see above), treatment consisted of three preparatory sessions and eight days of intensive therapy, which included 90 minutes of prolonged exposure, 45 minutes of group physical exercise, 90 minutes of EMDR, and 45 minutes of group psychoeducation. The total duration of treatment was 36 hours. Intensive therapies, although concentrated, take considerable time (e.g., over 7 days, clients participate in 18 hours of intensive cognitive therapy (Ehlers et al., 2014)). There have been attempts to design short treatments, such as written exposure therapy, which requires clients to complete sessions for a total of 4 hours of therapy (Sloan et al., 2023); however, these appear ineffective, with 60% of participants continuing to meet the criteria for PTSD at 10 weeks.

Ideally, clients with PTSD would benefit from treatments that do not cause distress or early attrition, are easy to do, not time-consuming, and have clinically meaningful effects on PTSD symptoms (no longer meeting the criteria for PTSD and yielding at least an effect size of d = 2). Accordingly, Image Transformation Therapy (ImTT) was developed to provide an alternative way to relieve PTSD symptoms without repeatedly revisiting the traumatic event. Instead, it focuses on transforming and releasing the feelings and images that result from trauma. The process utilizes breathing exercises and guided visualizations over five sessions, aiming to shift both the body's and the mind's responses to the traumatic experience. The current study is

designed to test the effectiveness of this brief breathing and visualization therapy, which aims to significantly reduce PTSD symptoms.

Image Transformation Therapy: An Overview

ImTT was developed by the first author (BLINDED FOR REVIEW). ImTT utilizes breathing and visualization techniques to release feelings and memories, making treatment more efficient and effective without overwhelming individuals with negative emotions that could impede their progress (BLINDED FOR REVIEW). ImTT divides PTSD into four categories: contact/direct threat (e.g., a person being strangled), no contact/direct threat (e.g., a person being threatened with a gun), contact/no direct threat (a person being sexually molested), no contact/no direct threat (e.g., a person who learned their loved one died in a traffic accident). The different categories of PTSD events determine which protocol the therapist first uses. For example, if the event involves contact/direct threat, the contact/direct threat traumatic memory protocol focuses on releasing the contact sensation first. For example, for a person who had been strangled, the first target for release would focus on the physical sensation of being strangled. By processing the contact sensation first, the feelings of terror and other feelings associated with the trauma are quickly reduced, lessening the probability of the client becoming overwhelmed. If the category of the event is no-contact/no-direct-threat (e.g., learning about the death of a loved one), the protocol first targets the shock of learning about the event. Other feelings of frozenness, guilt, shame, and the associated images linked with the events are processed according to the category of traumatic memory.

The Current Study

The current study investigated the efficacy of ImTT in reducing PTSD symptoms. Given the issue of inflated effect sizes in studies without a control group, we compared a group that

received ImTT to a waitlist control. Waitlist controls provide information about the short-term course of a disorder if left untreated and can serve as a basis against which treatment outcomes can be compared. This is the first study to assess whether ImTT is more effective than no treatment.

Method

Participants

Sampling Procedure, Selection Process, and Attrition

Participants were recruited using social media advertising that asked them to click on a link to complete the past-month version of the PTSD Checklist for DSM-5 (PCL-5). Those who scored ≥33 were automatically sent a link to complete a longer screening form, wherein they were asked to complete the consent form, provide demographic information, and answer questions to screen for personality disorders. Those who screened positive for PTSD (n = 489) and were aged between 18 and 70 received an email from the first author inviting them to set up an initial assessment session. Of those who were emailed, 193 (39%) did not set up an assessment—102 people did not respond, 24 stated that they were not interested in participating, 25 booked an initial appointment but did not show up, and 32 did not meet the eligibility criteria for the interview. Finally, 296 people received the initial assessment which confirmed their eligibility, verified their PTSD diagnosis, and collected data for baseline measures.

At the initial assessment held over Zoom, the first author reviewed the study protocol and informed potential participants that they could be assigned to immediate treatment or a waitlist (in which case treatment would begin within six weeks). If the potential participants met

criterion A for PTSD in the DSM-5, the participants were sent a Qualtrics link to complete the past-week version of the PCL-5.

If they screened positive (scored ≥33) on the PCL-5, personality disorder screening was initiated using the TeleSage NetSCID, a computerized version of the Structured Clinical Interview for the DSM-5. If they screened negative for personality disorder, a structured clinical interview using the Clinician Administered PTSD Scale for DSM-5 (CAPS-5) was administered to determine whether their reported traumatic events and associated symptoms met the DSM-5 criteria for PTSD (American Psychiatric Association, 2013). The entire assessment required a maximum of 1.5 hours for completion. Sixty-six people met all the inclusion criteria, all of whom were invited to participate. Eight people who initially agreed to participate later changed their minds and thus never completed a session. Of the 58 participants enrolled, seven dropped out after beginning the study for various reasons, including scheduling conflicts (4), not liking their therapist (2), and not completing the final week study items (1), resulting in a total retention rate of 87.93% after study commencement. All participants consented to participate in the study, which was approved by BLINDED FOR REVIEW. See Appendix 1 for the descriptive statistics of the participants, and Appendix 2 for a graphical representation of the interview process.

Materials

Measures

PTSD Checklist for DSM-5 (PCL-5), past-month and past-week versions. The PCL-5, past week and PCL-5, past month are validated and widely used self-report measures of PTSD symptoms (Weathers et al., 2013). The PCL-5 consists of 20 items corresponding to PTSD symptoms, as described in the DSM-5, and each item is scored on a five-point scale from 0 (not at all) to 4 (extremely), with total scores ranging from 0 to 80, with a cut-off score of 33

representing a positive screen for PTSD (Bovin et al., 2016). The PCL-5, past month assesses symptoms over the past month and is therefore a useful screening tool for PTSD diagnosis. The PCL-5, past week assesses symptoms over the past week and is therefore useful as a variable that changes weekly. As such, the PCL-5, past month was used as a screening tool for study participation (see *Sampling Procedure, Selection Process, and Attrition* above). The PCL-5, past week was used as the variable of interest to investigate the benefits of ImTT. Participants reported their baseline score at the initial assessment session and completed this measure at the beginning of sessions one to four, and at the termination and follow-up sessions. The PCL-5 is an accurate and reliable measure for detecting, intervening, and monitoring PTSD and has acceptable internal consistency, test-retest reliability, construct validity, and indexes clinical changes (for a review, see Forkus et al., 2023). Bovin et al. (2016) assessed a valid diagnostic cut-off score for the PCL-5 using the CAPS-5 and found that participants with PCL-5 scores of 31 to 33 were efficiently diagnosed with PTSD. Furthermore, the PCL-5 demonstrated good internal consistency ($\alpha = .96$), test-retest reliability ($r = .84$), and both convergent and discriminant validity. The PCL-5 has also been shown to be useful in monitoring clinical changes in PTSD symptoms (Blevins et al., 2015).

The Clinician-Administered PTSD Scale (CAPS-5). The CAPS-5 is a 30-item structured diagnostic interview that assesses PTSD diagnostic status and symptom severity. A PTSD diagnosis is determined by meeting a severity of at least 2 (moderate/threshold) for the specified number of symptoms for each criterion (B-E) with a duration of more than one month. The CAPS-5 score is determined by totaling the scores for each criterion, with the cut-off for PTSD being 12. This tool was used in the current study to ascertain participants' PTSD diagnosis during the initial assessment session. Prior research has found that the CAPS-5 has high internal

consistency, inter-rater reliability, and test-retest reliability for PTSD diagnosis (Weathers et al. (2013). The CAPS-5 also demonstrates convergent validity with the PCL-5 and is sensitive to diagnostic changes (i.e., moving from a PTSD diagnosis to no longer meeting criteria (Lee et al., 2022)). A previous version of the CAPS-5 (CAPS-IV) has also been validated in telehealth settings (Litwack et al., 2014), indicating that it is an effective tool for assessing PTSD through video teleconferencing.

Structured Clinical Interview for DSM-5 for Personality Disorders (SCID-5-PD). The SCID-5-PD (First et al., 2015) is a semi-structured interview guide for diagnosing personality disorders, which we needed to exclude from the study. The interview is divided into 10 modules for diagnosing the 10 personality disorders described in DSM-5. The participants first completed the SCID-5-PD during the initial screening. Participants whose answers indicated a potential personality disorder were interviewed during the initial assessment session using the relevant module of the SCID-5-PD. Participants whose module scores indicated the presence of personality disorders were excluded from the study.

Therapeutic Intervention: ImTT

All participants received ImTT, some immediately and others after being on a waitlist. The protocols and procedures developed by the first author for ImTT are described in the *Introduction*. In brief, each session included a script verbalized by the therapist to the participants, which explained the protocol's purpose and provided instructions, followed by guiding the participants through breathing and visualization techniques designed to release specific feelings or images from the body. If a protocol was not completed during a session (e.g., noticing the odor and taste reaction to the event), homework was assigned to complete the

protocol, and participants were provided with a link to the audio of the protocol to complete the homework.

Treatment Fidelity. ImTT was provided to all participants in this study (half of them received it after they had been on a waitlist). ImTT was administered by four licensed psychotherapists working in private practice. The first author trained three master's-level clinicians (one of whom was his wife) to administer ImTT independently of this study, each of whom had employed ImTT for at least five years with clients before being recruited for this therapy. All therapists used the protocols in the BLINDED FOR REVIEW, and were allowed to consult the first author during the study if needed. All sessions were recorded to maintain treatment fidelity, and 20% of the sessions were randomly selected for evaluation. The compliance rate was 100%, as determined by the first author. The first author conducted therapy with the majority of the participants (36), with six tested in California, four in Texas, and five in Pennsylvania.

Waitlist Control

Participants who met all study criteria were assigned to either receive ImTT immediately, in which therapy began as soon as possible after the initial assessment session (hereafter the "immediate treatment group") or were assigned to a waitlist, in which ImTT was scheduled to begin six weeks later (hereafter the "waitlist control"). During those six weeks of waiting, participants in the waitlist group served as the control group to be compared with the participants who received the "immediate treatment." The waitlist control served as an untreated comparison group, enabling isolation of the impact of ImTT on PTSD symptoms. For example, knowing that one has signed up for therapy can sometimes result in an improvement of symptoms owing to feelings of hopefulness. Alternatively, a waitlist control may also mitigate the effects of

regression to the mean, in which extreme scorers improve while moderate scorers worsen. Thus, it was important to ensure that participants in the immediate treatment group experienced greater relief from symptoms than those in the waitlist control group. Thus, the waitlist control group completed their baseline PCL-5 measure during the initial assessment (similar to participants in the immediate treatment group; see the study procedure below). They completed their posttreatment measures after being on the waitlist for six weeks, at which point they began ImTT. When the data for the waitlist group were analyzed for comparison with the immediate treatment group, we referred to their baseline (at the initial assessment) and posttreatment scores (at week six).

The benefit of a waitlist control is to assess the effectiveness of ImTT by allowing for a controlled comparison between those receiving immediate treatment and those on a waitlist, while ensuring that *all* participants receive the potential benefits of the intervention. Comparing the two samples when they receive treatment is useful, as it offers another sample of participants who have potentially undergone clinical changes and can answer questions about whether ImTT acts in the same way for different groups of people. Since the waitlist control group completed their posttreatment score at the beginning of their first treatment session, their posttreatment measure was the same as their treatment score in week one; they completed the PCL-5 at each of the first five treatment sessions. We use the term "treatment data" when the data for the first five treatment sessions among the waitlist control group are compared to the data for the first five treatment sessions among the immediate treatment group.

Therapy Procedure

Participants who met all study criteria and were therefore accepted into our study were assigned to either receive ImTT immediately, with therapy beginning as soon as possible

(typically the next week), or to a waitlist control group, in which ImTT was scheduled to begin six weeks later. At the point of assignment, participants were informed of the name of their therapist, who would be in contact with them to schedule the first of the five sessions (either immediately or in six weeks).

Immediate Treatment Group Procedure. Approximately one week after the initial assessment session, in which they provided their baseline PCL-5 score, the participants met with the therapist they were assigned to over Zoom for their first treatment session. As they had already completed the baseline score at the initial assessment session, no PCL-5 score was obtained in the first treatment session. They began the second treatment session by completing the PCL-5, past week, which was sent to them by the therapist as a Qualtrics link in the telehealth chat. The participant completed this form independently; no discussion took place between the therapist and the participant prior to its completion. After completing the form, the therapist asked the participant about their highest-scoring items, using this as a lead-in for the session's therapeutic content. This process was repeated for the duration of treatment (weekly treatment sessions three to five). Thus, five weekly treatment sessions were completed, four of which included PCL-5 scores (weekly treatment sessions two to five) plus an additional baseline score at initial assessment.

One week after the fifth treatment session, participants met with their therapists for a termination session. The termination session began with the participants completing the past-week version of the PCL-5, which was used as their posttreatment score in our analyses to investigate the effectiveness of ImTT. The therapists then inquired about the participants' feelings about completing treatment and any observed behavioral changes. The therapist then set up a three-month follow-up session with the participant. At that point, the participant filled out

the past-week version of the PCL-5 online during the session (referred to as the "three-month follow-up").

Waitlist Control. After the initial assessment, in which participants provided their baseline PCL-5 scores, they were placed on a waitlist for six weeks. Approximately six weeks after the initial assessment, participants met with the therapists they were assigned to over Zoom to complete the first treatment session. They began by completing the past-week version of the PCL-5, which was sent to them by the therapist as a Qualtrics link in a telehealth chat. The PCL-5 score at the first treatment session served as the posttreatment score in the analysis investigating the effectiveness of ImTT, comparing the immediate treatment group to an untreated waitlist control group. This score[1] was used as the pre-treatment score in our analyses to investigate whether receiving ImTT treatment was effective for all participants, regardless of the condition (which compared the course of treatment across the immediate treatment group and the treated waitlist control group). This process was repeated for the duration of treatment (weekly treatment sessions one to five). The waitlist control also completed a termination session one week after treatment session five. At the termination session, the study ceased (i.e., participants in the waitlist control group did not have a three-month follow-up score).

Design and Analyses

This study investigated whether ImTT was effective by comparing PTSD symptoms before and after treatment among those who received immediate treatment and those who were untreated on a waitlist. For both the immediate treatment and waitlist control groups, the PCL-5

[1] Note that this is one slight difference between the waitlist control group and the immediate group; the latter group was not tested with the PCL-5 at their first therapy session. This difference was a necessity of the study design to ensure that "after treatment" scores were obtained the same number of weeks after the "before treatment" scores were obtained for both groups. As such, we had to collect PCL-5 data from the control group when they came in for their first session, but there was no need to collect those data from the "immediate treatment" group at their first therapy session.

obtained at the initial assessment time was used as the baseline (pre-treatment) measure, and the posttreatment scores were obtained approximately six weeks later. We conducted a two-way repeated-measures ANOVA, with the PCL-5, past week as the dependent variable modeled as a function of group assignment (immediate treatment vs. waitlist control), time (before vs. after treatment, which was approximately six weeks apart for both groups), and the interaction between the two. Since the immediate treatment group was expected to show greater benefits of ImTT therapy than the waitlist control group, we expected to find a significant interaction between time and group assignment. We also investigated whether the course of treatment sessions had a similar impact on PTSD symptoms when both the immediate treatment and waitlist control groups received ImTT. Given that we expected that ImTT would work the same across groups and show similar patterns of change over the five treatment sessions, we ran a repeated-measures analysis of covariance, in which we assessed PCL-5 scores across pre-treatment (assessed at the initial assessment for the immediate treatment group and assessed at the first treatment session for the waitlist control), treatment sessions two to five, and the termination session with group assignment as a covariate. To calculate the effect sizes, we used an online calculator (Lenhard & Lenhard, 2022).

Results

Descriptive Statistics

Descriptive statistics of the 51 participants who completed the study are presented in Appendix 1.

Demographics

To determine whether non-random differences existed across treatment conditions, we employed chi-square tests to assess possible differences in race/ethnicity, gender, education, and sexual orientation. No significant between-group differences were observed. Moreover, independent sample t-tests revealed no age-related differences.

Trauma Symptoms

Participants varied in the severity of their PTSD symptoms, as assessed by PCL-5 and CAPS-5 scores, with higher scores indicating higher symptom severity. All participants scored above the cut-off point for the PCL-5, past week, of 33 (M = 49.73, SD = 9.86, range: 33–68); scores on the CAPS-5 ranged from 25 to 61 (M = 44.18, SD = 8.85). Furthermore, we assessed whether systematic differences existed in the PCL-5 and CAPS-5 scores across the treatment conditions and found no differences (p's > .1).

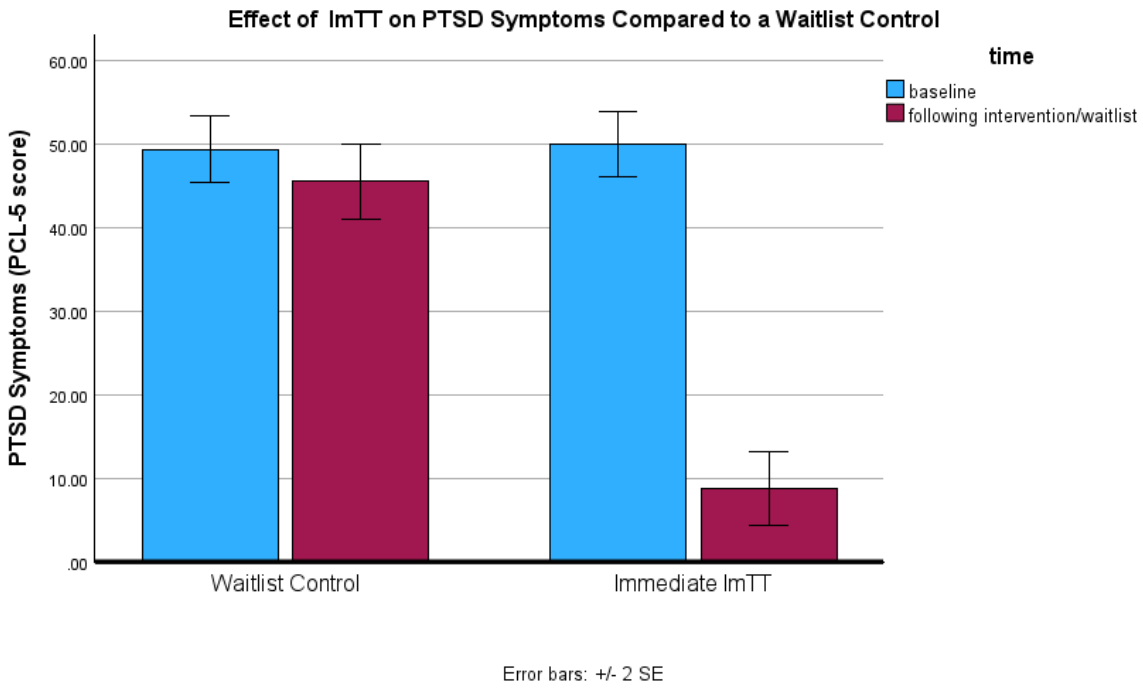
The nature of the traumatic events varied across the 51 participants. The types of traumatic events included physical assaults (n = 16), non-consensual sexual interactions (n = 19), car accidents (n = 3), bank robbery (n = 1), kidnapping (n = 1), witnessing a traumatic event (n = 4), and learning about close relatives who were threatened or experienced sudden death (n = 6). Chi-square tests revealed no systematic differences in the type of traumatic event across the treatment conditions (p > .1). Finally, the 51 participants varied in the length of time since the traumatic event occurred (M = 16.69, SD 13.99, range: .33 to 54 years), but we found no systematic differences across people receiving immediate ImTT versus those who were placed on a waitlist (p > .1).

Effectiveness of ImTT compared to the waitlist control group

To test the effectiveness of ImTT compared to the waitlist control group, we conducted a 2 × 2 (Treatment Condition × Time) repeated-measures ANOVA. This analysis modeled PCL-5,

past-week scores as a function of the treatment condition (waitlist control vs. immediate treatment), time (baseline vs. following treatment), and the interaction between treatment conditions and time. Table 1 shows the means and standard deviations of the PCL-5.

We found a significant effect of time on PTSD symptoms (as measured by the PCL-5, past week), $F(1, 49) = 245.156$, $p < .001$, partial $\eta^2 = .833$, indicating that participants' PTSD symptoms improved relative to their baseline scores. However, this effect is reinterpreted in light of finding a significant interaction between treatment condition (waitlist control vs. immediate ImTT) and time (baseline, obtained at the initial assessment vs. posttreatment score, obtained approximately six weeks after the baseline score) on PTSD symptoms (as measured by the PCL-5, past week), $F(1, 49) = 168.903$, $p < .001$, partial $\eta^2 = .775$. As shown in Figure 1, this interaction indicates that people who received ImTT immediately showed larger improvements than those in the waitlist control group who received no treatment (see Figure 1); this difference in improvement across treatment conditions was large (Cohen's d = 3.341). To probe this interaction, we conducted pairwise comparisons, which revealed that individuals who received no treatment and were on a waitlist showed no significant improvement in their PTSD symptoms ($M_{difference} = 3.84$, $SE_{difference} = 2.061$, $F(1, 49) = 3.473$, $p = .068$). However, individuals who received ImTT immediately showed a substantial improvement in PTSD symptoms ($M_{difference} = 41.346$, $SE_{difference} = 2.021$, $F(1, 49) = 418.728$, $p < .001$). Those who received ImTT immediately showed a large effect of ImTT on their PTSD scores (Cohen's d = 4.238). Given that several demographics differed across treatment conditions, we also ran this model controlling for race/ethnicity, therapist, and type of event that affected the results; however, these factors did not substantively change the results.



Benefits of ImTT Three Months After Treatment

To test whether the effect of treatment remained stable after three months, we ran a paired t-test to compare posttreatment PCL-5 scores with PCL-5 scores at the three-month follow-up among participants who received ImTT immediately. We found no significant difference between posttreatment and the three-month follow-up among those who immediately received ImTT, $t(50) = -.335$, $p = .739$. Moreover, the PTSD symptom scores were also numerically similar immediately following the intervention and three months later ($M_{week\ 6} = 10.235$, $SD_{week\ 6} = 9.454$; $M_{week\ 18} = 10.569$, $SD_{week\ 18} = 10.608$), suggesting that those who received ImTT immediately maintained *all* their treatment gains for three months after the end of treatment. On average, no reoccurrence of symptoms was observed, and PTSD symptoms remained extremely low three months after the intervention.

Comparison of Improvement Between the Waitlist Control and Immediate Treatment Groups Following Therapy

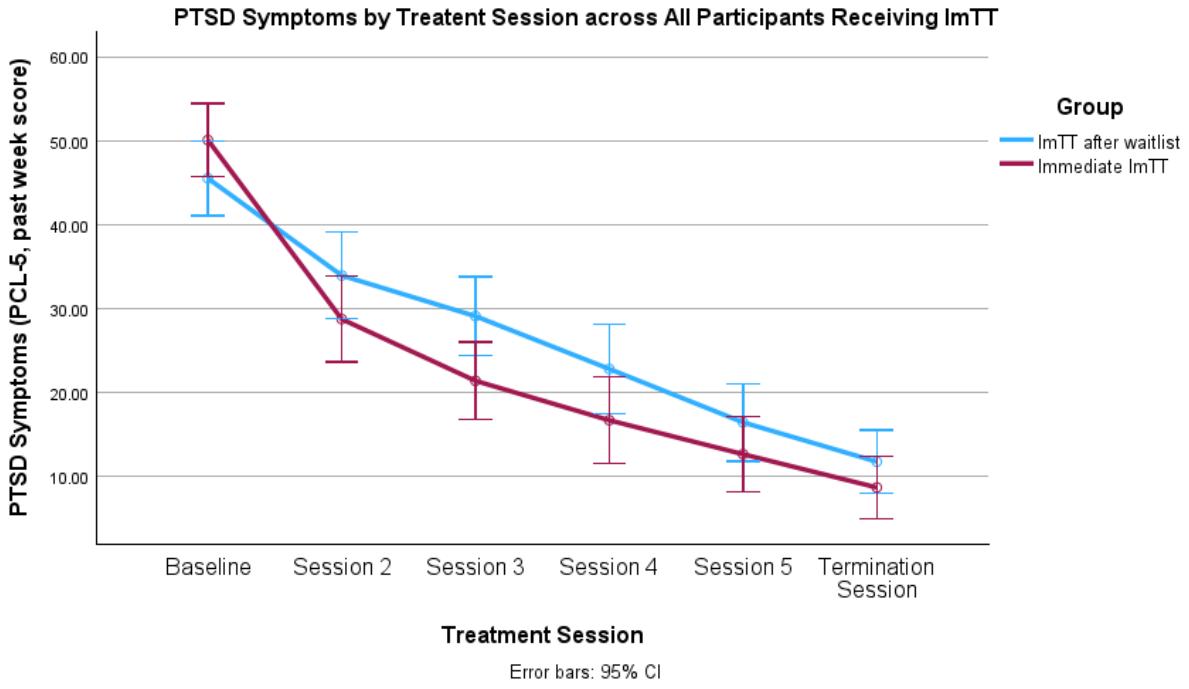
Testing whether the waitlist control group reported similar benefits of receiving ImTT to those who received ImTT immediately provides another assessment of whether ImTT is effective. To test whether the effects of receiving ImTT were similar for the waitlist control as those who immediately received ImTT, we conducted a mixed 2 × 2 (treatment condition × treatment session) repeated-measures ANOVA. If ImTT is effective, then we should find that the treatment conditions have a similar pattern of response (there should be no significant effect of the treatment conditions). The treatment sessions included the baseline, four treatment sessions, and termination session, and was coded as follows: 0 = initial assessment session for those receiving ImTT immediately and session one for the waitlist control group; 1 = treatment session two for both groups; 2 = treatment session three for both groups; 3 = treatment session four for both groups; 4 = treatment session five for both groups; and 5 = termination session for both groups.

The results indicated a significant decrease in PTSD symptoms over time across treatment sessions, $F(1, 49) = 121.215$, $p < .001$, partial $\eta^2 = .712$. We also found a significant interaction between treatment condition and treatment session $F(1, 49) = 10.662$, $p = .002$, partial $\eta^2 = .179$. To probe this interaction, we conducted pairwise comparisons, which revealed that when the waitlist control group received ImTT, they showed similar levels of PTSD symptoms as those that received ImTT immediately for the baseline, treatment sessions two, three, and five, and termination sessions (all p's > .1). The only difference was during treatment session four, when those who received ImTT immediately had a lower PCL-5 score than those who received ImTT after being on a waitlist (mean difference = -7.697, $F(1, 49) = 5.554$, $p = .022$). As shown

in Figure 2, the results demonstrated that the treatment and waitlist control groups had comparable PCL-5 scores throughout the treatment weeks and showed nearly identical rates of progress.

Figure 2

Comparison of PTSD Symptoms



Discussion

This study aimed to investigate the efficacy of a brief (five-session) visualization-based therapy designed to rid clients of the negative energy held in their minds and bodies due to traumatic events. Using a treatment group versus a waitlist/control group design allowed for a simple comparison of the effectiveness of ImTT versus no treatment. Indeed, we found that 1) ImTT was beneficial compared to a waitlist control group, 2) individuals who received ImTT

immediately showed stability in their treatment gains three months following the cessation of ImTT, and 3) ImTT was verified to work similarly across the two samples. Notably, the study had a total retention rate of 87.93% after the study had begun, suggesting that participants found it useful. These results demonstrate the overall viability of this new treatment and warrant further investigation into its efficacy.

This study is the first test of ImTT. Perhaps the most surprising aspect of this study was its effect size. The effect size of the studies in the literature review ranged from d = 1.32 (Klaeth et al., 2024) to 1.57 compared to a waitlist group (Ehlers et al., 2014). These effect sizes were stated as large. Thus, we expected ImTT to have a similar effect. Nonetheless, we found that the overall treatment effect for those receiving immediate treatment had a Cohen's d of over 4, which is well over the threshold for a statistically large effect as well as the threshold for clinical significance. Prior research has shown that waitlist control groups can inflate effect sizes, because waitlist controls do not receive an intervention, placebo, or active control (Laws et al., 2022). Although testing a treatment against a waiting list is not a very strict test (Laws et al., 2022), even if the effect size is double what it should be, Cohen's d in this case is so strong that such an impact still warrants considering this therapy to be effective.

Owing to our surprise, a number of steps were taken to confirm these findings. The first author double-checked the veracity of the data; we ran a model assessing waitlist control (to determine whether the effect of treatment might differ on another sample), sample selection was reviewed and described in depth, and the second and third authors separately conducted analyses and their findings converged. Moreover, the results cannot be attributed to regression to the mean, given that the waitlist control did not show significant improvement in their symptoms.

Therefore, we believe that the results of this study are accurate. These strong effects warrant independent research on the effectiveness of ImTT.

Moreover, nearly all the participants who received treatment no longer met the diagnostic screening criteria for PTSD-5, as indicated by the mean PCL-5 score following treatment, which was far less than 33. These large decreases in PTSD symptoms due to ImTT were duplicated across the treatment and waitlist control groups (the average posttreatment PTSD symptom score among those who received ImTT after being on a six-week waitlist was 11.8 and the average posttreatment score for those who received ImTT immediately was 8.731). These results beget an obvious question: why or how might ImTT be so effective?

ImTT seeks to assuage PTSD symptoms in just eight clinical hours. We found that the effect was retained three months later in patients who received immediate and delayed treatment. Hence, the benefit of treatment, in which most participants no longer had a positive screen for PTSD, was stable three months after the end of therapy. This was also unexpected for such a short treatment duration, given that psychosocial interventions tend to lose some level of efficacy at follow-up.

Limitations and Future Directions

Similar to many intervention studies, our participants were mostly white and college-educated women, which creates problems of generalizability. Despite such limited demographics, a strength of this research was that participants had diverse ages and varied in the duration of experiencing PTSD symptoms, ranging from 0.33 to 54 years ($M = 16.39$, $SD = 14.02$). The fact that ImTT was effective across age ranges and in people who had PTSD for a brief time and for many years highlights the potential utility of ImTT. Future research should test the efficacy of ImTT in diverse populations.

Researcher biases and demand characteristics may have influenced the results. This study was performed by a therapy developer and his students, who used it in their private practices and did not employ single- or double-blinding to reduce such bias. Given the potential for researcher bias and that therapists' expectations have been shown to affect therapy results (Bartle-Haring et al., 2022), therapists' attitudes may have affected participants' therapy. To what extent may this have played a role? Although researcher bias and demand characteristics can alter study findings, people who suffer from PTSD often react strongly to triggering events that occur in conversations and various activities of daily living that persist over time. That is, even if demand characteristics were at play, they were unlikely to move someone from having been diagnosed with PTSD to not having PTSD at all. Thus, even though a therapist's attitude may influence a study participant, this influence is not likely to persist over the three-month follow-up.

Future research by independent laboratories is needed to replicate these significant effects to ensure data replicability. Currently, however, ImTT appears to be a very promising treatment to assuage the symptoms of PTSD and help people move from having a mental disorder to not having one. Future research will also benefit from having a diagnostic interview both at the beginning and end to confirm that people truly no longer have PTSD, rather than just being negative on the PCL-5 screening tool.

Conclusion

This study indicates that ImTT may be an effective and time-efficient method for treating PTSD. The significant reduction in the intensity of traumatic memories after the first session suggests that it may be easier for patients with PTSD to tolerate this treatment. Furthermore, this study was conducted through telehealth. An effective and efficient therapy for PTSD that is

easier for people to tolerate and can be accessed remotely may enable them to obtain help more easily.

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Figure Legends

Figure 1. *Effect of ImTT on PTSD Symptoms Compared to a Waitlist Control*

Figure 2. *Comparison of PTSD Symptoms*

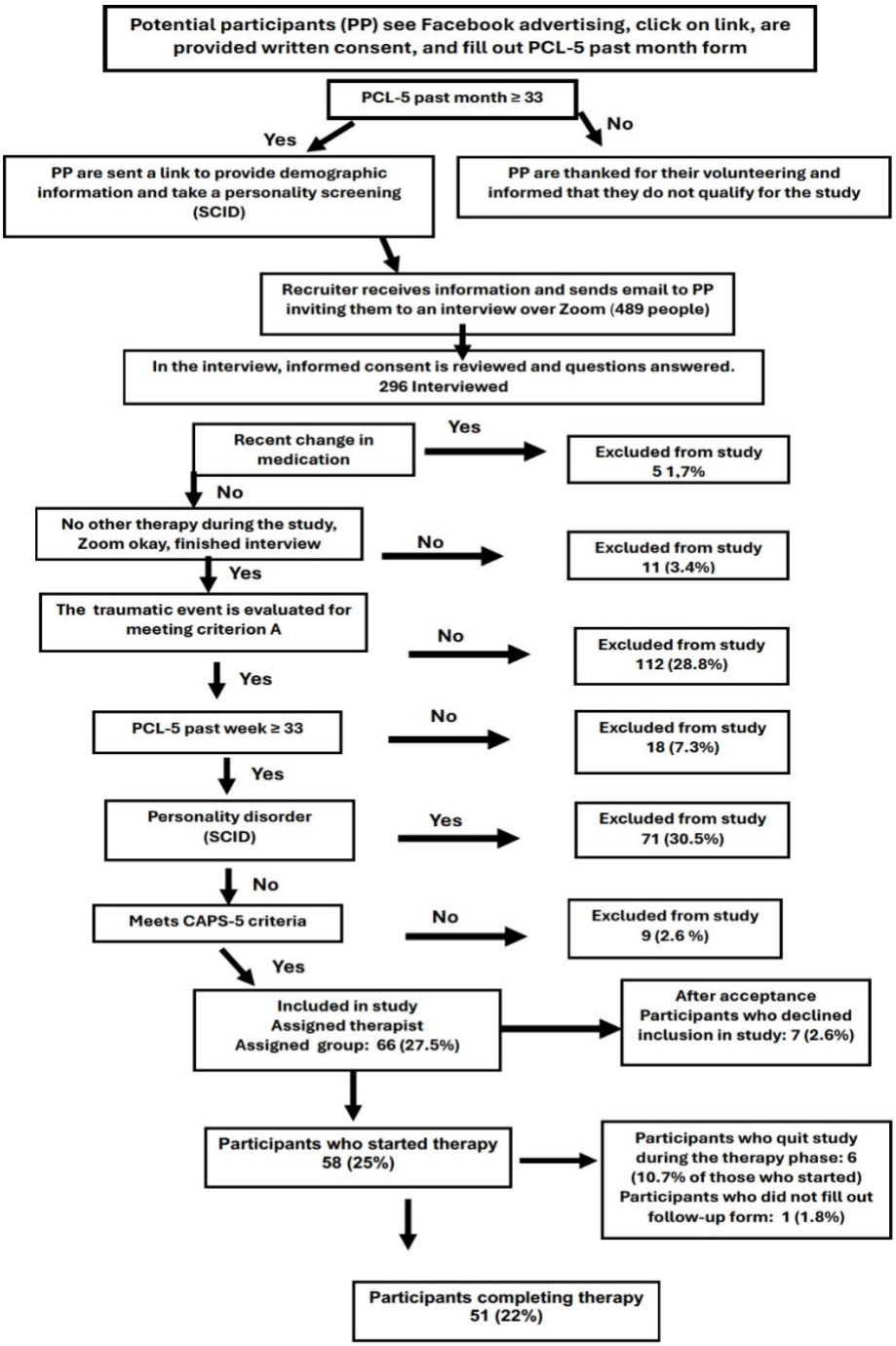
Appendix 1

Descriptive Statistics of Participants (N = 51).

Gender	N	%
Female	50	98.03
Male	1	1.96
		0
Education		0
High school	2	3.92
Post HS	17	33.33
College	32	62.74
Age	M = 49.63	SD = 12.00
Race/Ethnicity		
Asian	2	3.92
Black	1	1.96
Indigenous	1	1.96
Hispanic	2	3.92
Mixed	5	9.80
White	40	78.43
Sexual Orientation		
Heterosexual	39	76.47
Homosexual	4	7.84
Pansexual	8	15.68
Type of Trauma		
Assault	18	35.29
Witnessing	5	9.80
Sexual assault	19	37.25
Accident Injury	3	5.88
Sudden death of loved one	4	7.84
Other	2	3.92
CAPS-5	M = 44.18	SD = 8.85

PCL-5	M = 49.73	SD = 9.86

Appendix 2



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