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A Randomized Clinical Trial of Observed and Experiential Integration (OEI): A Simple, Innovative Intervention for Affect Regulation in Clients With PTSD

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Since 1994 an innovative treatment has been in development for psychological trauma, known as Observed & Experiential Integration (OEI; Bradshaw, Cook, & McDonald, 2011; Cook & Bradshaw, 1999, 2002). In this small pilot RCT, OEI outperformed a delayed treatment control condition for reduction of PTSD symptoms on the Clinician-Administered PTSD Scale (CAPS) and the Impact of Event Scale-Revised (IES-R). A script-driven symptom provocation protocol was employed. Ten mixed trauma survivors (3 male, 7 female) received three 1-hour sessions of OEI "Switching". After the delayed treatment group received the same intervention, all but one participant no longer met the criteria for PTSD. In this report, the RCT is supplemented by a qualitative 2-year follow up. OEI Switching can be easily taught to clients for affect regulation during, and between, sessions.

Keywords: posttraumatic stress disorder, script-driven symptom provocation, mixed method, affect regulation, critical incident

A core difficulty faced by many trauma survivors with posttraumatic stress disorder (PTSD) and complex PTSD is affect dysregulation. This is particularly the case with individuals who suffered prolonged childhood abuse (Briere & Scott, 2006; Schore, 2003a, 2003b; van der Kolk, 2002a). Several self-administered procedures exist for affect regulation and behavioral coping, such as mindfulness (Linehan, 1993), cognitive skills training with exposure (Cloitre, Koenen, Cohen, & Han, 2002) and energy psychology (Feinstein, Eden, & Craig, 2005), reflecting the high need for effective interventions in this domain. In the last decade there have been a number of reviews of effective treatments for PTSD (Foa, Keane, Friedman, & Cohen, 2009; Najavits, 2007) and complex PTSD (Courtois & Ford, 2009; Paivio & Pascual-Leone, 2010). van der Kolk (2002b) highlighted the importance of interventions that address subcortical brain structures (e.g., amygdala, hippocampus, anterior cingulate gyrus) which have been implicated in PTSD symptoms such as panic attacks, flashbacks, nausea, and hyperventilation. Because these symptoms emanate from structures deeper in the brain than the cortices, they require procedures "beyond talk therapy" (cognitive mediation) to resolve or heal.

Observed and experiential integration (OEI) is a new therapy for trauma that addresses these PTSD symptoms. It includes five sets of techniques, which have been described elsewhere in considerable detail with case examples (Bradshaw, Cook, & McDonald, 2011). In this article, results of a pilot effectiveness study are presented, involving only the simplest of these techniques, known as "Switching." This technique was selected for the first study because it was the most easily applied by clients for affect regulation, and at the same time is the least similar to EMDR. OEI "Switching" is often very effective when applied alone, either in sessions under the direction of a therapist, or between sessions applied by clients for self-help with affect regulation. This incremental component analysis research program permits more focused analysis of the active ingredients in the techniques subsumed within this new therapy.

OEI evolved out of a combination of Gendlin's (1984) Focusing, Educational Kinesiology (Brain Gym; Dennison & Dennison, 1986, 1994), and EMDR (Shapiro, 1995). Audrey Cook had noticed that a number of her trauma clients were unable to track a visual stimulus smoothly with both eyes, so she began to try the procedure one eye at a time. Applying this process across many clients, she discovered that clients experienced reductions in their levels of intensity when they alternately covered their left and right eyes. It was also found that the cognitive component of EMDR added little to the effectiveness of this "Switching," because the negative cognitions resolved as the intensity

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The first author, Dr. Bradshaw, wishes to disclose that he is (a) a co-developer of the treatment applied in this article (OEI) with his colleague Audrey Cook; (b) is a co-author and co-editor of books about OEI with Audrey Cook; and (c) that he is president of SightPsych Seminars Inc., the company through which OEI training is organized and delivered.

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of the physical and emotional symptoms subsided. Likewise, the positive and neutral cognitions seemed to increase in believability as the associated affective and somatic intensity were reduced. During process-experiential psychotherapy, Bohart and Greenberg (2002) noted that it was necessary for clients to articulate meaning. In contrast, during focusing, EMDR, and OEI such verbal expression is unnecessary. Bradshaw, Cook, and McDonald (2011) comment further:

> During OEI processing, the relative importance of verbal articulation seems to vary, depending on the personalities of clients. Some fully resolve their traumas through somatic and affective discharge, while others remain in states of confusion or disbelief until they can grasp what has changed and describe the shifts that have occurred. In many therapy models, clients depend on therapists to provide "interpretations;" however, with OEI they often arrive at such insights themselves. (p. 108)

The process of "Switching" is typically neither as rapid nor as rhythmical as the saccadic movements of EMDR but, rather, the switching from one eye to the other is delayed (typically 20 to 60 s) and uneven (remaining with one eye covered much longer than the other eye). The underlying mechanism of OEI "Switching" is almost certainly different than the mechanism underlying the rapid, rhythmic, bilateral stimulation of EMDR. Stickgold (2002) proposed that the mechanism underlying EMDR is similar to the mechanism behind REM sleep, involving pontogeniculooccipital (PGO) waves. For this to occur, however, there is a presumption that the associated eye saccades (or other bilateral stimuli) are rapid and even (i.e., rhythmical), which is only the case approximately 10% of the time spent in trauma processing with OEI "Switching."

Instead of the PGO wave explanation, hemispheric asymmetry in activation seems a more plausible explanation for the effectiveness of OEI "Switching." Rauch et al. (1996) found that when the brains of trauma survivors with PTSD were observed using positron emission tomography (PET) scans during script-driven symptom provocation (SDSP; i.e., triggering of trauma memories with 30- to 50-s audio recordings), it was evident that the right hemispheres of most individuals showed more amygdaloid arousal. This preponderance of right brain activation during triggering of traumatic memories was also observed by Fredric Schiffer, a Harvard University psychiatrist, and his colleagues (Schiffer, 1996; Schiffer, Teicher, & Papanicoloau, 1995).

Schiffer also observed a similar phenomenon in associated affective intensity when alternately covering all except the right or left *lateral* visual fields (Schiffer, 1997, 1998, 2000; Schiffer, Anderson, & Teicher, 1999; Schiffer et al., 2004). In the most recent of these studies, it was found that activation of the lateral visual fields activated the contralateral extrastriate cortices. In OEI, it has been found that affective intensity typically shifts dramatically through alternation of left and right *monocular* covering, rather than only exposure of the *lateral* visual fields. This may be because each eye has connections to both hemispheres: The nasal fibers of the optic nerves run contralaterally, and the temporal fibers run ipsilaterally. Depending upon eye dominance, higher activation may occur with either the left or the right eye covered. Schiffer, Stinchfield, and Pascual-Leone (2002) used lateral visual field stimulation to predict clinical response to transcranial magnetic stimulation for depression. Although the predictions were marked, they were not perfect. It may be that eye dominance is the missing link in this account. During clinical observation of galvanic skin response (i.e., electrodermal activity), activation drops substantially when the dominant eyes of clients are covered. Likely underlying neurobiological mechanisms of action for all five sets of OEI techniques are discussed at considerable length elsewhere (Bradshaw, Cook, & McDonald, 2011), as are the theoretical foundations of this treatment. OEI is an integrative psychotherapeutic model based especially on assimilative strategies that are elucidated in the 2011 article with clinical material and case examples.

Discovery and development of OEI began in 1994 (Bradshaw & Cook, 2008; Cook & Bradshaw, 1999, 2002). Although OEI Switching has been used in well over 100,000 hr of clinical work with survivors of trauma with PTSD and complex PTSD by the developers (Audrey Cook and Rick Bradshaw), the first controlled trial of OEI is reported in this article. In addition to the pilot randomized clinical trial (RCT) of 10 participants reported here, highlights of a qualitative 2-year follow-up of eight of the 10 participants in the original RCT are included in this article. McCloud (2013) has recently emphasized the relevance and importance of qualitative methods in psychotherapy research.

The simple, quick, and effective OEI procedure used in this RCT (Switching) is described in detail in Appendix A of this article. This technique can be used safely by most clients between sessions to significantly reduce levels of physical and emotional distress. In well over 100,000 hr of clinical work involving OEI "Switching," clients have reported becoming more hopeful and empowered in their recoveries from psychological trauma, as they learn to self-regulate their affect using this procedure.

All research was approved by the Review of Ethics Board for Human Subjects at Trinity Western University, Langley, Canada.

Randomized Clinical Trial

Participants

Recruitment occurred over a 30-day period through posters and announcements in public and private agencies. Eight participants were Caucasian and two were of mixed First Nations and Caucasian descent. Nine participants were currently employed and one was retired. Two were students, all were middle class socioeconomically, and eight participants were married. Appendix B provides additional background characteristics. In total, 10 participants responded and all individuals met screening and inclusion criteria, including: (a) over 19 years of age, (b) not currently engaging in disordered use of a substance and not abusing within the last year as indicated by self-report, (c) not suicidal or psychotic, (d) seeking help for distress associated with one particular traumatic event that occurred during their adult years, (e) a score greater than 45 on the Clinician-Administered PTSD Scale (CAPS), and (f) a score less than 40 on the Dissociative Experiences Scale (DES).

Screening and Outcome Measures

Clinician-Administered PTSD Scale (CAPS; Blake et al., 1995). Each individual had to be assessed for PTSD symptoms and have a CAPS score greater than 45. This structured interview

was used to assess whether individuals met the *DSM–IV–TR* (American Psychiatric Association, 2000) diagnostic criteria for PTSD. A total severity score > 45 (frequency + intensity summed across 17 PTSD symptoms) was chosen for inclusion in the study because Orr (1997) found that a total CAPS score of 45 corresponded with physiological reactivity to script-driven imagery in adult female survivors of childhood sexual abuse. Internal consistency reliability (coefficient alpha) for the sample was high for CAPS total scores at Times 1 (.81), 2 (.97), and 3 (.93).

Dissociative Experiences Scale (DES; Bernstein & Putnam, 1986; Carlson & Putnam, 1993). This 28-item self-report measure is used to assess the proportion of nonintoxicated waking hours that clients experience dissociation. Individuals had to score less than 40 on the DES. According to the second article cited above, the weighted mean DES score for trauma survivors with PTSD (across five studies and 240 cases) was 31, so a cutoff of 40 is reasonable and not likely to introduce a selection bias for this population. Because only brief treatment was provided, it was considered unethical to expose participants with higher levels of dissociation to traumatic audio scripts of their traumas. Internal consistency reliability (coefficient alpha) for the sample was high for the DES (.93).

Impact of Event Scale—Revised (IES-R; Horowitz, Wilner, & Alvarez, 1979; Weiss & Marmar, 1997). The IES-R was used to assess weekly changes in three symptom clusters of PTSD: intrusion, avoidance and numbing, and hyperarousal. Internal consistency reliability (coefficient alpha) for the sample was generally acceptable for (a) intrusion subscale at Times 1 (.65), 2, (.94), and 3 (.92); (b) avoidance and numbing subscale at Times 1 (.30), 2 (.70), and 3 (.89); and (c) hyperarousal subscale at Times 1 (.86), 2 (.95), and 3 (.84).

Design and Procedures

A randomized clinical trial with waitlist control was conducted over a 10-week period, as diagrammed in Appendix C. The quantitative assessment was extended for 4 weeks to further evaluate the degree of activation arising from the triggering procedure described in the next paragraph. This quantitative portion of the design was supplemented with a 2-year qualitative follow-up exploring clinically relevant benefits as perceived by clients.

SDSP is a procedure originally developed and used by Lang and his associates to access emotion networks (Lang, Levin, Miller, & Kozak, 1983; Levin, Cook, & Lang, 1982). It involves the development of a 30- to 50-s audio script of the most intense or upsetting portions of a traumatic incident which can be played back to research participants to consistently activate a traumatic memory. The procedure was further developed for triggering and assessing flashbacks in Vietnam veterans (Pitman, Orr, Forgue, de Jong, & Claiborn, 1987) and individuals with other anxiety disorders (Pitman et al., 1990). It has been used more recently in PTSD studies by Lanius et al. (2001), Lanius et al. (2004), Pitman, Shin, and Rauch (2001), Rauch et al. (1996), and Shin et al. (1999).

Ten qualified participants were randomly assigned to either a treatment group or a delayed treatment control group. Those in the treatment group received three 60-min sessions of OEI Switching from an experienced trauma therapist over a 2-week period. Although OEI includes five different sets of procedures (Bradshaw et al., 2011), Switching was selected for evaluation in this study because it was the least likely to be confused with eye movement desensitization and reprocessing (EMDR; Shapiro, 1995, 2002). Because it was considered important to differentiate OEI from EMDR, no guided saccades (movements of the eyes) were used. Instead, the Switching procedure simply involves having participants alternately cover and uncover their left and right eyes, one at a time, while focusing on disturbing pictures, thoughts, emotions, and/or physical sensations.

Just prior to the first of these treatment sessions, participants in both groups completed the CAPS and the IES-R. Both groups completed the CAPS and the IES-R again after the last of the three treatment sessions had been administered to the treatment group. Participants in both groups received the same treatment (three 60-min sessions of OEI Switching). The scheduling of SDSP protocol sessions for both groups of participants is outlined in Appendix C. Participants in the delayed-treatment group were also assessed using the CAPS and IES-R at Time 1 to provide baseline assessment for the control comparison (see Figure C-1 in Appendix C for assessment times). One alternate hypothesis to explain reduction of PTSD symptoms during the study was exposure (i.e., habituation and extinction) via the SDSP protocol. For that reason, participants in the delayed treatment group received *two additional administrations* of SDSP just prior to treatment sessions two and three.

Results

Control Analysis

During the control phase (see the left side of Figure C-1), treatment was compared with no treatment. Despite the small sample size, significant Time × Group interaction effects were found for both the CAPS total score, $F(1, 8) = 23.88$, $p = .001$, $\eta^2 = 0.75$, and the IES-R avoidance and numbing subscale, $F(1, 8) = 17.03$, $p = .003$, $\eta^2 = 0.68$ (nominal significance level of 5% for this family of tests yields a p cutoff of .0125). Complete ANOVA tables are presented in Appendix D for reference. Means and standard deviations are provided in Appendix E. Figures 1 and 2 show that each interaction effect demonstrates the effectiveness of Switching for reducing PTSD symptom levels.

Global Treatment Analysis

Following the initial control phase, an open trial extension was completed to provide treatment for the delayed-treatment group (see the upper left and lower right panels of Figure C-1). The significant and rapid reduction in PTSD symptoms was replicated for the delayed treatment group. The Time × Group interaction for the CAPS associated with the treatment phase was nonsignificant with a tiny effect size, $F(1, 8) = 0.01$, $p = .923$, $\eta^2 = 0.001$. Figure 3 shows the parallel slopes of PTSD symptom decreases for both the initial- and delayed-treatment groups. Results for parallel analyses of the IES-R subscales are presented in Appendix D.

In considering a possible additive effect of exposure on symptom reduction in this study, it is helpful to note that the SDSP protocol involves exposure to the focal trauma for each participant. A very close parallel in rate of symptom decrease in both treatment groups ($\eta^2 = 0.001$ for the interaction effect) was obtained even though the delayed treatment group had received twice as many applications of the SDSP protocol. Exposure shows a dose-response relationship in

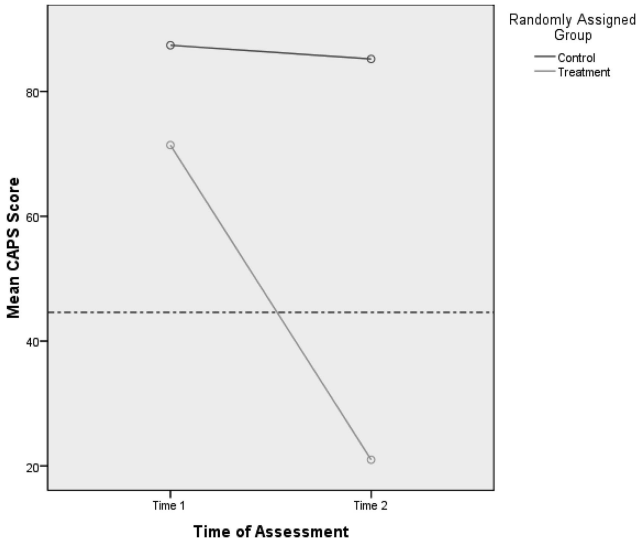

Figure 1. Clinician-Administered PTSD Scale (CAPS) scores from Time 1 to Time 2 for control group ($n = 5$) and treatment group ($n = 5$). The dashed horizontal line reflects a threshold for clinically significant levels of PTSD symptoms (Orr, 1997).

clinical application. It is therefore highly unlikely that the observed reductions in PTSD symptom intensity for members of the treatment group are attributable to exposure effects arising from SDSP. The reason that exposure effects cannot explain the pattern of results is that there was no difference in dose in OEI Switching for participants (three treatment sessions) but there was a difference in exposure associated with the SDSP procedure (four exposures for the delayed treatment group and two exposures for the immediate treatment group). The results show a near zero effect size (0.1%), which

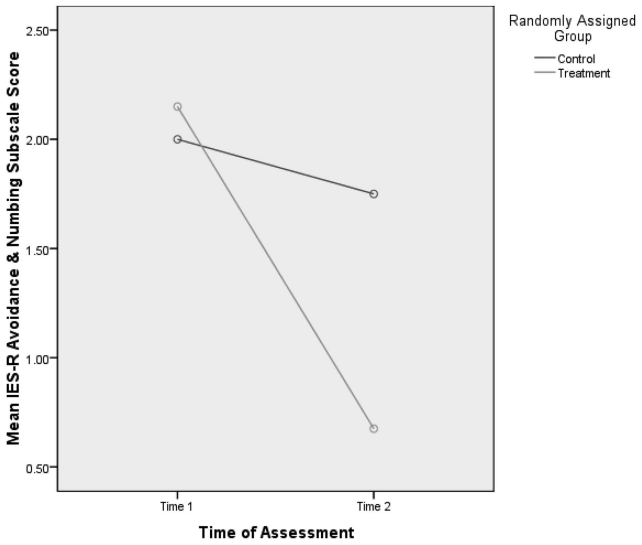

Figure 2. Impact of Event Scale—Revised (IES-R) avoidance and numbing subscale scores, Time 1 to Time 2 for control group ($n = 5$) and treatment group ($n = 5$).

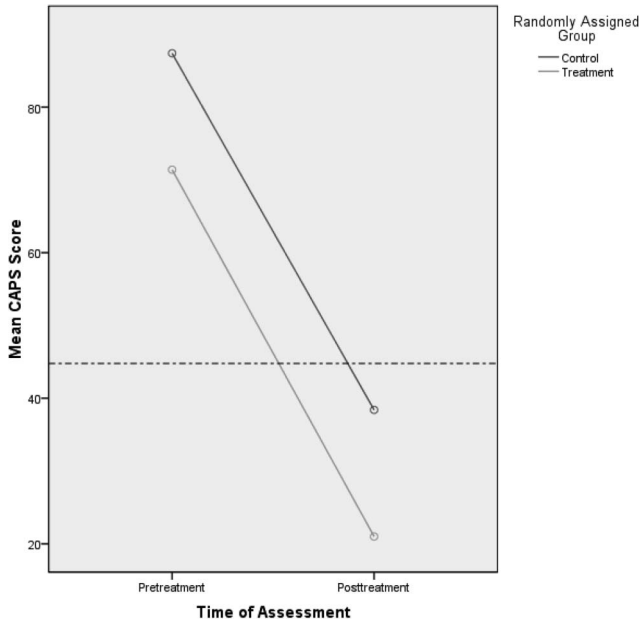

Figure 3. Clinician-Administered PTSD Scale (CAPS) scores from pre- to posttreatment for control group ($n = 5$) and treatment group ($n = 5$). The posttreatment score for the control group reflects assessment after delayed treatment (see Figure C-1). The dashed horizontal line reflects a threshold for clinically significant levels of PTSD symptoms (Orr, 1997).

describes the cell means, not merely stating a nonsignificant result (i.e., not just a "null finding").

Qualitative Follow-Up

To follow-up on the quantitative phase of the study, a critical incident technique (CIT) investigation (Butterfield, Borgen, Amundson, & Maglio, 2005) was conducted 2 years after completion of the treatment. CIT is a well-established methodology that enables psychotherapy researchers to distinguish effective features of treatment and recovery as perceived by clients. Focusing on key events or incidents is particularly helpful for guiding clients to articulate their experiences of therapeutic change. Eight of the 10 original participants were available for follow-up. Six of the eight follow-up participants were women. See Appendix B for background information regarding the follow-up participants. The goal of this follow-up project was to assess how individuals experienced their recoveries from trauma over an extended time period, and to develop maps of what helped and hindered them in the process. Semistructured, open-ended interviews were conducted and analyses employed systematic coding procedures.

From 194 documented incidents, 12 helping and 11 hindering categories emerged. Helping categories included the OEI therapy they had received in the two studies reported earlier in this article. Hindering categories included lack of financial resources and nonsupportive responses from family members and friends. All participants in the follow-up project said that OEI treatment and participation in the RCT was important in their overall path of recovery. Several participants described a clear and distinctive place for the OEI treatment in their overall healing journeys. In fact, OEI treatment and participation in the earlier study was

associated with more incidents than any other factor in recovery from trauma in the follow-up interviews (27 across the eight participants). This category, described as "awareness of recovery coming from involvement in the OEI study," included participants' comments that OEI treatment helped decrease PTSD-related symptoms such as flashbacks, nightmares, panic symptoms, sleep difficulties, and inability to drive motor vehicles.

One follow-up participant described how she felt after her first session of treatment: "You know, with the therapist doing the OEI and going through my story again that night, that Friday, I suddenly felt alive, just alive!" She described this as the breakthrough that started her recovery. Another participant stated, "I was aware from the first session that the OEI was quite helpful because I was having tangible feelings of relief." Still another participant described her involvement in the trauma therapy study, stating, "I did feel optimistic and uplifted." Another participant described her involvement in the study as, "Relief, relief, and a sense of release!"

Another participant said, "I haven't talked about it since the time of the study. I haven't gone back into it, really. It was tough sometimes. I sighed a lot, which the therapist said was helpful for me. The work with him helped me get over the nightmares and the panic. And you know I feel much more optimistic. His [the therapist's] work helped."

With regard to decreased flashbacks, one participant mentioned that, "Before therapy, the memory of the traumatic event would pop out any time you opened the drawer." In describing how therapy had helped with that situation, he said, "I will say that after the OEI . . . it stays at the back of the filing cabinet instead of the front, so it doesn't pop out any time you open the drawer."

In the CIT strategy, participants were invited to share broad features of their recoveries from trauma, including the relative importance of community, family, and personal resources. It is quite significant how, after 2 years, participants ascribed a notable place for the three-session course of OEI Switching.

Implications for the Study of Trauma Therapy

Results of this RCT and follow-up show clear promise for OEI as an emerging treatment for PTSD. One purpose of the study was to explore the effectiveness of OEI Switching for treating individuals diagnosed with PTSD. At pretreatment, each participant met the diagnostic criteria for PTSD. After three 1-hr sessions of OEI Switching, each individual reported reduced symptoms of PTSD, and all but one of the 10 participants fell below the PTSD cut-off score of 45 on the CAPS. Reductions in scores and intensity ratings on the CAPS demonstrated large treatment effects. Furthermore, the qualitative follow-up results demonstrated persistence of clinically significant impact of OEI Switching over a 2-year period. Results of this pilot investigation clearly warrant further research regarding the effectiveness of OEI for reducing PTSD symptoms.

Implications for Counseling

Results of this initial pilot study and follow-up regarding the efficacy of OEI for treating PTSD are promising. Nine of the 10 participants in this study experienced significant relief from PTSD symptoms, as indicated by large reductions in CAPS and IES-R scores from pre- to posttreatment assessments, to the point where the diagnosis of PTSD no longer applied. Such results warrant further treatment outcome research on OEI. In addition, the OEI Switching procedure can be used by clients at home and work between sessions.

Delimitations

The small sample size limits the generalizability of findings from this RCT, but this investigation constitutes the first formal investigation of the effectiveness of OEI. When combined with the qualitative follow-up (2 years after the RCT), the project was time intensive and a great deal of information was gathered on each participant, so the cost per individual for a larger sample would not have been feasible. Despite the small sample size, ANOVA results revealed large effect sizes, attesting to the benefits of OEI Switching for treatment of individuals suffering from PTSD and complex PTSD.

The short duration of treatment offered in this study could be seen as inadequate for providing sufficient benefit to participants. It has, however, been demonstrated in EMDR studies that rapid deescalation of symptoms can occur with only one to three 1-hr treatment sessions (see reported outcomes of short treatment dosages in Chemtob, Tolin, van der Kolk, & Pitman, 2000; Hopper & van der Kolk, 2001; Ironson, Freund, Strauss, & Williams, 2002; Rothbaum, 1997). These authors review a number of smaller studies in which significant reductions in PTSD symptoms were reported after only one to six EMDR treatment sessions. These EMDR studies are mentioned because OEI is much more similar to EMDR than to CBT or Prolonged Exposure treatments.

Limitations and Future Research

The possible confounds of using one therapist were considered. In spite of the resulting limited generalizability to other therapists, this was considered acceptable to obtain consistency across participants in the treatment provided. A registered psychologist with 20 years of experience (7 years using OEI techniques) was considered most suitable to apply the OEI technique of Switching because there are relatively few therapists trained in OEI techniques. Considering that this was an initial, exploratory study to observe whether OEI treatment would bring about changes in PTSD symptoms the assignment of a single therapist was considered acceptable.

The fact that in this study researchers were not blind to the study design was a weakness. To reduce bias or confounding of treatment outcome results, the researchers were careful to remain neutral (not influence expectations of participants, etc.) and to limit their contact time with participants. Both assessors were present throughout the entire study and monitored each others' contact and responses with participants. Future studies should involve assessors who are blind to treatment assignment.

In order to adequately assess the efficacy of treatment with OEI techniques in future, a larger sample should be recruited and carefully selected. In addition, the efficacy of OEI needs to be compared with the efficacy of other interventions specifically designed for treating PTSD (e.g., an alternative such as Cognitive Processing Therapy, CPT; Resick & Schnicke, 1992). Future studies should also involve at least two therapists for each treatment explored.

The experiential impact of SDSP on study participants was sometimes extreme. Given the importance of addressing clinically

realistic samples in trauma therapy research, designs need to fully address the potential for high intensity of responses to SDSP.

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Appendix A

Trauma Treatment

Observed and Experiential Integration (OEI) "Switching" Procedure

1. The participant is instructed to close his or her eyes and play the traumatic incident through in his/her mind from start to finish "like a movie." During this reflection, she/he is encouraged to let the therapist know when he/she first feels any of the following:

Physical Signs

- chest "compression" (tension or constriction near the solar plexus);
- diaphragmatic "restriction" (difficulty taking in a full breath);
- nausea, cramping or "fluttering" in the stomach;
- head pain, pressure, numbness, or tingling;
- throat constriction or closing;
- visual distortion or blurring.

Emotional Signs

- fear, shock, or anxiety;
- sadness or "hurt;"
- anger or rage;
- shame/guilt.

As soon as she or he feels any of these, the instruction is given to first cover the nondominant eye[1] and report the intensity of the physical and/or emotional sign from 0 (*doesn't bother you at all*) to 10 (*the most intense that physical sensation or emotion has ever felt for you*). This is a modification of Wolpe's (Wolpe, 1990) subjective units of distress (SUDS) scale.

If the participant (P) shows negative intensity markers (facial flush, reddening around the eyes, tears, halting of breathing, shaking, or furrowing of the brow), or reports a high SUDS rating, the instruction is given to uncover the nondominant eye and cover the dominant eye. The P is then asked to report the SUDS rating with the nondominant eye open. In approximately 90% of the instances

(*Appendices continue*)

[1] Hannaford, C. (1997). *The dominance factor: How knowing your dominant eye, ear, brain, hand & foot can improve your learning.* Arlington, VA: Great Ocean Publishers. Dr. Carla Hannaford's procedure for assessing eye dominance is described as follows: Hold your thumb out at arm's length, lining it up with a vertical structure (door or window frame, picture edge, etc.), focusing on it with both eyes. You are likely to see a double image—that is normal. Without moving either your thumb or head, close one eye, then open it and close the other eye. Whichever eye holds the image of the vertical object lined up with your thumb is the dominant eye (Hannaford, 1997, p. 38).

of trauma processing in OEI sessions, clients stay for only 3 to 5 s with the dominant eye open, and then switch to the nondominant eye open, where they stay for usually 20 to 60 s, or until a spontaneous breath is observed.

If the SUDS ratings with the nondominant *and* dominant eye open (one at a time) are *both* high (which occurs in only about 10% of the trauma processing that is done in OEI sessions), the P is instructed to begin rapidly alternating open eyes (covering and uncovering first the nondominant, then the dominant eye), approximately every second. This alternation can be as fast as every half-second if extreme negative intensity markers are observed. This is kept up (usually 25–50 "switches") until a shift or "release" is either *observed* by the therapist (in the form of a spontaneous breath by the client) or verbally *reported* by the P. At that time, the P is instructed to check intensity levels (either physical or emotional signs) with the dominant, then nondominant, eye covered and note which one is lower in intensity (SUDS). The P is told to "stay on the eye" (i.e., keep the eye uncovered) that is associated with the lowest SUDS level.[2] It is common for Ps to come *down* 2–3 points in SUDS ratings with each "round" (i.e., each single alternation of left and right eyes open, or with each series of 25–50 rapid "switches"). A rapid switching sequence may be repeated two or three times, if the P reports continuing high and equal SUDS ratings with each eye open.

2. The P is instructed to continue thinking about the scene, or face, or physical sensation from the trauma that is disturbing and continue checking and reporting SUDS levels with each eye alternately covered and uncovered. If the P reports that a *lower* (rather than equal and high) SUDS level is experienced with *one* of the eyes covered, he or she is instructed to remain with that eye covered until the SUDS level goes down "*as low as* it feels it will go" (usually concomitant with the observation of a spontaneous breath in the P). The P is then told to "switch" (the eye that is covered) and notice whether he or she experiences "the same" or "a different experience" compared with when the *other* eye was covered.[3] If the intensity goes *up*[4] the P is instructed to quickly "switch" and cover the other eye. This process is continued until the intensity is reduced to SUDS levels of "2" or lower.

3. The P is then instructed to *continue* "playing the movie" of the trauma until he or she again feels some form of physical or emotional intensity. The whole procedure is continued (Steps 1, 2, and 3), as necessary, until the P reports little or no physical or emotional intensity while "playing the whole movie" of the trauma from start to finish. The P is then instructed to consider whether this trauma reminds him or her of any other, perhaps similar, traumas. If time allows, these are also desensitized using Steps 1, 2, and 3. Still another approach that is used to activate and access dissociated portions of memories is to track across multiple dimensions of the traumatic experiences, from what is "known" to what is "unknown." An example would be a P who can remember what he or she felt in his/her body, but has no visual, auditory, or emotional connections to the same moment or event. He or she would be instructed to keep thinking of the same body sensations and event, while noticing any emotions, or audio-visual reactions he/she experiences.

4. Occasionally a P will report a *lower* SUDS intensity (for fear, shock, or anxiety) with the *dominant* eye open, even though he/she was focused on an obviously emotionally and physically horrific scene. If this occurs, the therapist should ask, "Can you believe that happened" (or that he/she did that to you)? After several "switches," the same question is asked. Usually, believability *increases*, dissociation *decreases*, and therapy moves more freely.

5. As the therapy progresses, patients often encounter transient symptoms that OEI therapists have come to know as "dissociative artefacts." Such symptoms seem to be *side effects* of experiencing the more intense symptoms of trauma processing (core body reactions such as chest or throat constriction, hyperventilation, or nausea). "Artefacts" can include headaches and pressures in the head and neck; dizziness, lightheadedness, and/or loss of balance; and visual distortions (double vision, blurring, and partial occlusion of the visual field in one or both eyes). The same switching procedure is applied to these symptoms, except that Ps are instructed to focus on these "artefacts" rather than on their psychological traumas. Switching usually clears these transient "artefacts" so that patients can return to focusing on, and resolving, their core trauma symptoms without the distraction or discomfort of these side effects.

For more information regarding OEI procedures and treatment protocols, readers are referred to www.sightpsychology.com

(*Appendices continue*)

[2] For most right eye dominant Ps, they will report that when the *right* eye is open, the highest SUDS levels are experienced. The major exception to this is for the emotion of "sadness or hurt," which is often associated with the highest SUDS ratings with the *nondominant* eye open.

[3] In (a) body location (head, stomach, chest, throat, or jaw); (b) type of sensation (pain, numbness, or tingling); or (c) intensity (SUDS 0-10).

[4] The P is instructed to "pay attention to the *first sign* that the intensity is increasing, and "switch" immediately, rather than letting the intensity build up. That gives the P a greater sense of control over physical and emotional intensity, and also avoids activation of overwhelming intensity. It should be noted that, unlike prolonged exposure therapy, OEI does *not* require Ps to experience high levels of distress in order to effectively process (integrate) posttraumatic states.

Appendix B

Characteristics of Participants

Participant number	Gender and race	Age	Group	Time since trauma of interest	Type of trauma
101	Female	62	T	7 years	Witnessed husband's suicide by gunshot
102	Female	27	C[b]	2 years	Motor vehicle accident
103	Female	52	T[b]	19 years	Assault with intent to murder by ex-spouse
104	Female	41	T[b]	8 months	Verbal & emotional assault by family member
105	Male	43	C[b]	4.5 years	Friend overdosed and found lying inches away, dead
106	Male[a]	44	T[b]	1.6 years	Attended suicide by hanging
107	Female[a]	42	C[b]	3 years	Motor vehicle accident
108	Female	47	C[b]	4.5 years	Motor vehicle accident
109	Male	28	T	2 years	Motor vehicle accident
110	Female	48	C[b]	29 years	Assault & rape

Note. T = immediate treatment group; C = delayed treatment (control) group.
[a] Race mixed descent Caucasian and First Nations background for these two participants. The other eight participants are of Caucasian background. [b] Included in 2-year qualitative follow-up.

Appendix C

Research Design

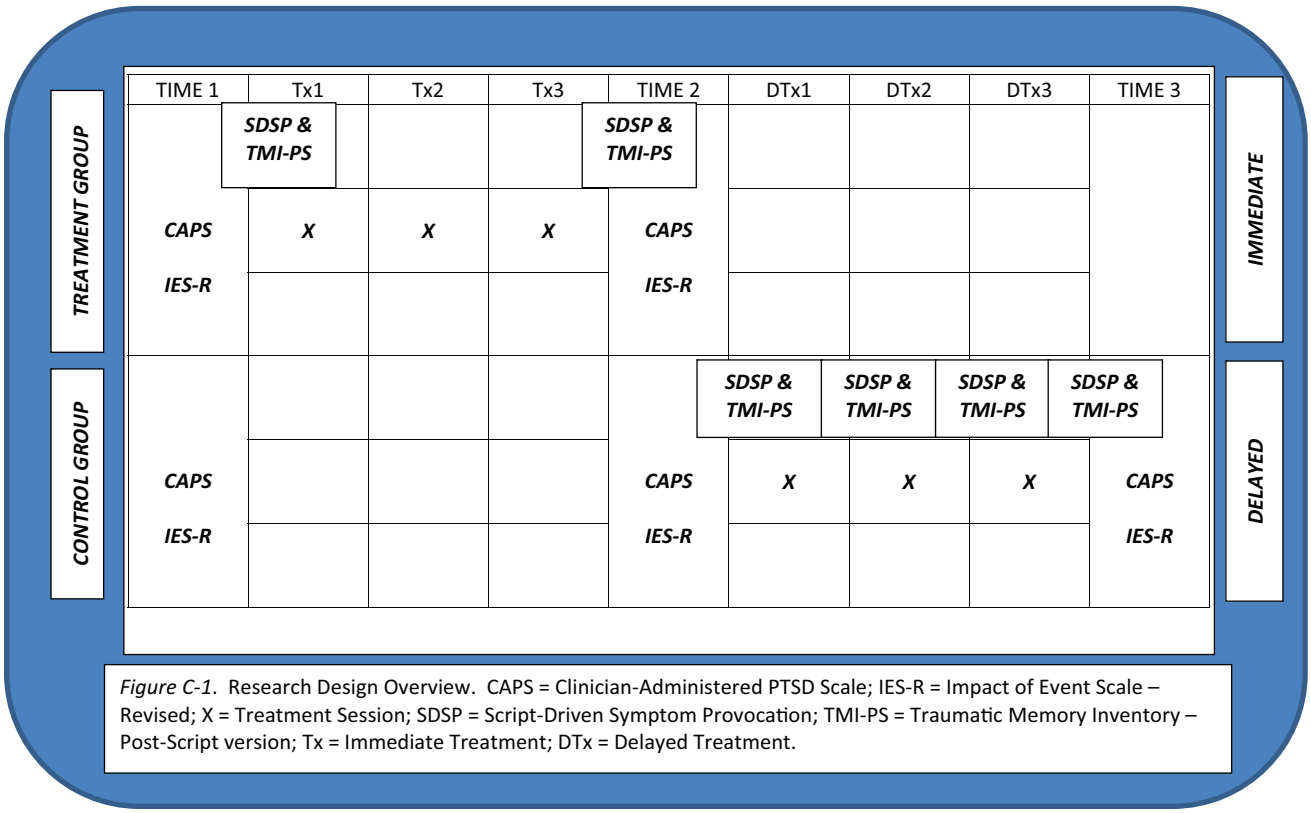

Figure C-1. Research Design Overview. CAPS = Clinician-Administered PTSD Scale; IES-R = Impact of Event Scale – Revised; X = Treatment Session; SDSP = Script-Driven Symptom Provocation; TMI-PS = Traumatic Memory Inventory – Post-Script version; Tx = Immediate Treatment; DTx = Delayed Treatment.

(*Appendices continue*)

Appendix D

Results for Analyses of Variance (ANOVAs) for PTSD Symptom Measures

Design	Effect	Wilks' lambda	$F(1, 8)$	p	Partial eta squared
CAPS T1 to T2	Time	.22	28.44	.001	.780
	Group		13.71	.006	.632
	Time * Group	**.25**	**23.88**	**.001**	**.749**
IES-R Int T1 to T2	Time	.53	7.04	.029	.468
	Group		6.36	.036	.443
	Time * Group	.61	5.14	.053	.391
IES-R AN T1 to T2	Time	.19	33.77	.000	.808
	Group		3.81	.087	.323
	Time * Group	**.32**	**17.03**	**.003**	**.680**
CAPS Pre to Post	Time	.14	50.58	.000	.863
	Group		3.14	.114	.282
	Time * Group	**1.00**	**0.01**	**.923**	**.001**
IES-R Int Pre to Post	Time	.53	7.04	.029	.468
	Group		6.36	.036	.443
	Time * Group	.61	5.14	.053	.391
IES-R AN Pre to Post	Time	.19	33.77	.000	.808
	Group		3.81	.087	.323
	Time * Group	.32	17.03	.003	.680

Note. CAPS = Clinician-Administered PTSD Scale; T1 = Time 1; T2 = Time 2; IES-R = Impact of Event Scale–Revised; Int = intrusion subscale; AN = avoidance and numbing subscale. CAPS Pre (pretreatment) has the same values as CAPS at T1, but is renamed to coincide with the CAPS Post (posttreatment). The values that comprise the combined variable CAPS Post are the treatment group participants ($n = 5$) at Time 2, and the delayed treatment Control Group ($n = 5$) at Time 3. See Figure C-1 for additional detail. Parallel merged group values comprise scores for IES-R Int Post, and IES-R NA Post. The rows of bold text correspond to Figures 1 to 3. Values are not provided for hyperarousal subscale of IES-R because distributions violated the assumption of normality.

(*Appendices continue*)

Appendix E

Means and Standard Deviations for Key Study Variables

	Control group (n = 5)		Treatment group (n = 5)		Total group (N = 10)	
Variable	*M*	*SD*	*M*	*SD*	*M*	*SD*
CAPS at T1	87.40	16.21	71.40	18.24	79.40	18.33
CAPS at T2	85.20	27.67	21.00	7.38	53.10	38.85
CAPS at T3[a]	38.40	26.93				
IES-R Int at T1	2.35	0.58	2.08	0.63	2.21	0.59
IES-R Int at T2	2.25	1.02	0.80	0.26	1.52	1.04
IES-R Int at T3[b]	1.15	0.82				
IES-R NA at T1	2.00	0.54	2.15	0.54	2.08	0.51
IES-R NA at T2	1.75	0.35	0.68	0.27	1.21	0.64
IES-R NA at T3[c]	0.95	0.88				
IES-R Hyp at T1	2.37	1.42	1.60	0.68	1.98	1.12
IES-R Hyp at T2	2.40	1.25	0.60	0.15	1.50	1.26
IES-R Hyp at T3[d]	1.27	0.86				
CAPS Pre	87.40	16.21	71.40	18.24	79.40	18.33
CAPS Post[e]	38.40	26.93	21.00	7.38		

Note. CAPS = Clinician-Administered PTSD Scale; T1 = Time 1; T2 = Time 2; IES-R = Impact of Event Scale–Revised; Int = intrusion subscale; AN = avoidance and numbing subscale; Hyp = hyperarousal Subscale. CAPS Pre (pretreatment) has the same values as CAPS at T1, but is renamed to coincide with the CAPS Post (posttreatment). The values that comprise the combined variable CAPS Post are the treatment group participants (n = 5) at Time 2, and the delayed treatment control group (n = 5) at Time 3. See Figure C-1 for additional detail. Parallel merged group values comprise scores for IES-R Int Post, and IES-R NA Post.

[a] CAPS at T3 was only completed for the delayed treatment control group, so there are no values for the treatment group or the total group. [b] IES-R Int at T3 was only completed for the delayed treatment control group, so there are no values for the treatment group or the total group. [c] IES-R NA at T3 was only completed for the delayed treatment control group, so there are no values for the treatment group or the total group. [d] IES-R Hyp at T3 was only completed for the delayed treatment control group, so there are no values for the treatment group or the total group. [e] CAPS Post was at T2 for the treatment group and at T3 for the control group, so there is no total group.

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