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# Obstacles, Challenges, and Proper Treatment of PTSD: An Effectiveness Case Illustration

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# Obstacles, Challenges, and Proper Treatment of PTSD: An Effectiveness Case Illustration

## **Abstract**

The purpose of this study was to examine the literature regarding the treatment of severe posttraumatic stress disorder (PTSD) and to demonstrate the need for clinicians to become trained and experienced in administering exposure therapy. The obstacles to using this method will be discussed and myths will be disputed based on the literature. The case study will further demonstrate the critical need for exposure therapy treatment by examining the treatment of a woman with severe PTSD who did not respond to other treatment modalities.

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OBSTACLES, CHALLENGES, AND PROPER TREATMENT OF PTSD: AN  
EFFECTIVENESS CASE ILLUSTRATION

A DISSERTATION

SUBMITTED TO THE FACULTY

OF

SCHOOL OF PROFESSIONAL PSYCHOLOGY

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HILLSBORO, OREGON

BY

STEPHANIE M. SCHAEFER

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Abstract

The purpose of this study was to examine the literature regarding the treatment of severe posttraumatic stress disorder (PTSD) and to demonstrate the need for clinicians to become trained and experienced in administering exposure therapy. The obstacles to using this method will be discussed and myths will be disputed based on the literature. The case study will further demonstrate the critical need for exposure therapy treatment by examining the treatment of a woman with severe PTSD who did not respond to other treatment modalities.

Keywords: Single-case, exposure therapy, PTSD

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## Obstacles, Challenges, and Proper Treatment of PTSD: An Effectiveness Case

## Illustration

*Statement of the problem*

Research regarding the prevalence of posttraumatic stress disorder (PTSD) suggests PTSD occurs in 5% to 10% of the population (APA Online, 2000 as cited in Middleton, Willner, & Simmons, 2002; Neria, Nandi, & Galea, 2008; Capatano et al., 2001; National Center for PTSD, 2005 as cited in Kazi, Freund, & Ironson, 2008). Beck and Coffey (2007) stated, “Exposure to trauma is a relatively common human experience” and cited a study by Kessler et al. (1995) that investigated the findings of the National Comorbidity Study (NCS). The NCS study found 60.7% of males and 34.2% of females experienced trauma and 34.2% of males and 24.9% of females experienced more than one trauma.

Studies of disaster victims indicate different rates of PTSD. Neria, Nandi, and Galea (2008) found 30% to 40% of direct disaster victims developed PTSD whereas 10% to 20% of rescue workers and between 5% and 10% of the general population develop PTSD. The literature on post-disaster PTSD includes a wide range of prevalence rates. Wang et al. (2000) found that rates of PTSD after a disaster have ranged from as low as 2% to as great as 67% (as cited in Norris, Kaniasty, Conrad, Inman, & Murphy, 2002).

While the prevalence of PTSD after disasters appears wide-ranging, PTSD research has revealed two factors that may contribute to the development of PTSD in trauma victims: fatality resulting from the trauma and avoidance symptoms (including dissociation). According to research by Blanchard and Hickling (2004; as cited in Beck & Coffey, 2007) on motor vehicle accident (MVA) victims MVAs resulting in a fatality, regardless of the individual’s responsibility for the MVA, were at a “heightened risk” for developing PTSD compared to those

who were involved in MVAs that did not result in a fatality. Şalcıoğlu, Başoğlu, and Livanou stated, “Evidence from anxiety disorder literature points to the importance of focusing on behavioral avoidance in therapy” (2007). The researchers found that 90% of participants engaged in self-exposure treatment resulted in a reduction in behavioral avoidance. Participants who “recovered” from avoidance had double the reduction in the Clinician-Administered PTSD Scale (CAPS), excluding behavioral and cognitive avoidance symptoms. Similarly, Capatano et al. (2001) examined “Cluster C” (criterion C) of the *DSM-IV-TR*'s PTSD diagnosis in victims of a landslide in Sarno, Italy. The researchers found that a third of participants with PTSD met avoidance and numbing symptoms that make up criterion C and that 87% of participants who met Cluster C criteria met full criteria for PTSD. A single case study by Cornelius and Kenyon-Jump (2007) found a client with PTSD, Mr. Jones, “reported that he used avoidance strategies almost exclusively to deal with intrusive thoughts, flashbacks, and nightmares.” Avoidance or criterion C symptoms for PTSD appear to be related to meeting full criteria for PTSD after a trauma and may serve as a predictor for the development of post-trauma PTSD.

### ***Literature review***

Effective treatments are needed for PTSD regardless of the “exact” prevalence rate for the disorder. The *Journal of Clinical Psychology* initiated a series entitled, “Expert consensus guidelines: Treatment of posttraumatic stress disorder” (Foa, Davidson, & Frances, 1999). Foa et al. (1999) identified anxiety management, cognitive therapy, exposure therapy, play therapy, and psychoeducation as the most recommended initial psychotherapy techniques. Exposure therapy was included as a recommended treatment for the treatment of PTSD when the most prominent symptoms include intrusive thoughts, flashbacks, trauma-related fears, panic, and avoidance, and general anxiety including hyperarousal, hypervigilance, and a startle response. When PTSD is

comorbid with other anxiety disorders or if the client is an adult or older adolescent exposure is recommended. Exposure therapy is listed under “most effective techniques,” “quickest acting techniques,” “techniques preferred across all different types of trauma,” and as a treatment “to prevent chronic symptoms in patients with acute PTSD.” Similarly, Taylor (2006) states the core interventions of cognitive-behavioral therapy for PTSD include a mix of cognitive restructuring and exposure, either alone or in combination with one another. Taylor stated exposure could include imaginal, interoceptive, and situational exposure.

The literature on PTSD treatment supports both the expert consensus and Taylor’s core interventions for PTSD for a variety of traumatic experiences resulting in PTSD. Başoğlu, Şalcıoğlu, and Livanou (2007) compared their previous studies with victims of an earthquake in Turkey (see Başoğlu et al., 2003a; Başoğlu et al., 2003b; and Başoğlu et al., 2005) to determine if exposure in an earthquake simulator or self-exposure alone would provide greater reduction in PTSD symptoms. The authors found a larger effect size on the PTSD measures for participants in the earthquake simulator exposure treatment compared to the self-exposure participants. They found improvement in the cognitive symptoms of PTSD and interpreted their results as suggesting exposure therapy can lead to cognitive changes. Şalcıoğlu, Başoğlu, and Livanou (2007) used information from the previous studies to evaluate self-exposure in relation to behavioral avoidance symptoms. The results supported the hypothesis that behavioral avoidance would be the first symptom to respond to self-exposure indicating self-exposure can reduce behavioral avoidance and more generally, PTSD, more quickly than other psychotherapeutic techniques (i.e., changes were noted earlier in the treatment). Şalcıoğlu, Başoğlu, and Livanou stated, “Given the chronic nature of PTSD in the study participants and less than 10% reduction

in PTSD during the waiting period, improvement in behavioral avoidance and other PTSD symptoms is thus attributable to treatment.”

Research comparing exposure therapy to other types of treatment has been mixed. Some studies indicate that exposure and other cognitive-behavioral therapy (CBT) techniques are equally effective at reducing PTSD symptoms (Bryant, Moulds, Guthrie, Dang, & Nixon, 2003; Marks, Lovell, Noshirvani, Livanou, & Thrasher, 1998; Foa et al., 2005; Lovell, Marks, Noshirvani, Thrasher, & Livanou, 2001) while others indicate that exposure is superior to other CBT treatments (Taylor, 2003b as cited in Taylor, 2004; Stapleton, Taylor, & Asmundson, 2007). Some of these differences might be related to the type of CBT treatment being used or the speed at which symptoms diminish. For example, Taylor (2004) cites a study he conducted comparing exposure therapy to eye movement desensitization and reprocessing (EMDR) and relaxation training (Taylor, 2003b). The results indicated when exposure therapy is compared to EMDR and relaxation training fewer exposure therapy participants met criteria for PTSD post-treatment. EMDR and relaxation training did not differ from each other on any of the outcome measures. Further, exposure therapy resulted in “significantly larger reductions” in avoidance symptoms and reexperiencing symptoms from pre- to post-treatment and exposure more quickly reduced avoidance in participants. More recently Stapleton, Taylor, and Asmundson compared EMDR, relaxation training, and exposure therapy in the treatment of PTSD in battered women. Again the study demonstrated that exposure therapy was more effective in the treatment of PTSD than EMDR or relaxation training. The researchers state the findings from their study do not support the use of EMDR or relaxation training in the treatment of PTSD in battered women. In contrast, Taylor et al. (2003) found EMDR, relaxation training, and exposure therapy to be associated with reductions in PTSD; however, exposure therapy “tended to be most efficacious

in reducing reexperiencing and avoidance symptoms and worked more rapidly in reducing avoidance.” The largest number of participants who no longer met *DSM-IV-TR* PTSD criteria engaged in exposure therapy treatment (Taylor et al., 2003). Exposure therapy appears to be the most efficacious treatment when compared with EMDR and relaxation training; however, both EMDR and relaxation training may have some impact on PTSD symptoms. Similarly, a meta-analysis by Davidson & Parker (2001) found the eye movement component of EMDR had little therapeutic effect.

The literature also compares exposure, including imaginal exposure (IE) and prolonged exposure (PE), to cognitive restructuring (CR) treatment or a combination of exposure and CR. Bryant, Moulds, Guthrie, Dang, and Nixon (2003) found that both IE combined with CR (IE/CR) and IE alone demonstrated “greater reductions” in PTSD and anxiety than supportive counseling (SC). Marks, Lovell, Noshirvani, Livanou, and Thrasher (1998) compared exposure alone with CR alone, exposure combined with CR, and relaxation. Exposure, CR, and exposure combined with CR produced “marked improvement” typically superior to that of relaxation. The study did not find significant differences between exposure and CR. Lovell, Marks, Noshirvani, Thrasher, and Livanou (2001) also compared exposure, CR, exposure with CR, and relaxation training. While all four treatment groups reduced PTSD symptoms, exposure, CR, and exposure combined with CR were more effective than relaxation on symptoms including “reexperiencing, avoidance/numbing and associated features but not on increased arousal symptoms.” Foa et al. (2005) compared PE, combined PE and CR (PE/CR), and Wait List (WL). Both PE and PE/CR were superior to the WL condition in reducing PTSD and depression; however, the addition of CR to PE did not enhance treatment outcome. The researchers hypothesized that the combination

treatment would be more effective than either PE or CR alone; however, the results did not support this hypothesis, suggesting that using a combined treatment is potentially unnecessary.

While the literature has demonstrated that exposure therapy is an empirically supported treatment (EST) for PTSD, “real world” clinicians appear reluctant to use exposure with clients exhibiting PTSD symptoms (Becker, Zayfert, & Anderson, 2004). A number of myths and attitudes regarding the use of exposure, the types of participants used in randomized controlled trials (RCTs), and manualized treatments in general exist regardless of the empirical literature to the contrary. Hembree and Cahill (2007) identified five myths held by professionals: 1) participants in randomized trials are “clean” cases without comorbid diagnoses; 2) since the results are based on these “clean” cases the same outcomes will not generalize to a “real world” population; 3) exposure therapy can be harmful; 4) exposure therapy will make symptoms worse; and 5) exposure therapy will cause patients to drop out of therapy. Rothbaum and Schwartz (2002) identified the same myths as Hembree and Cahill and identified five additional myths: 6) patients will not want to engage in exposure therapy; 7) patients have reduced autonomy because they are “forced” to recall painful memories; 8) patients do not recover at their own pace; 9) exposure can only be used with patients exposed to a discrete trauma; and 10) exposure only impacts symptoms related to PTSD and trauma-related anxiety. Feeny, Hembree, and Zoellner (2003) also identified an eleventh myth: 11) exposure therapy is rigid and therefore not flexible in meeting individual patient’s needs.

Hembree and Cahill stated the first myth, that research studies use “clean” cases, was incorrect because research suggests patients with comorbid diagnoses benefit from exposure treatment; however, sometimes the significance of the comorbid diagnosis reduces the efficacy of the treatment for the targeted disorder (i.e., PTSD). Rothbaum and Schwartz stated

participants are not typically excluded from studies because they have multiple trauma exposure, comorbid conditions, or Axis II pathology. The second myth is related to the first in that studies using “clean” cases (the first myth) will not generalize to “real world” population. Research has used community samples (Feeny, Hembree, & Zoellner, 2003), and therefore this myth is not supported.

The third myth, exposure therapy can be harmful, has not been supported by the literature. Richard and Gloster (2007) examined ethical and legal complaints related to exposure therapy and found no evidence of ethical or legal complaints against therapists due to their use of exposure therapy. Richard and Gloster stated the key criterion for a civil suit requires the plaintiff to claim they “suffered undue harm as a result of treatment.” Rothbaum and Schwartz stated clinicians and researchers may fear exposure therapy is harmful because it requires the patient to relive the trauma. While the memories are not dangerous on their own they tend to feel dangerous to the patient because they are linked to affect related to the trauma. Exposure requires reliving the memories but ultimately reduces intrusive memories and makes memories less painful (2002). Related to the perceived “harm” of exposure therapy there are myths that PTSD symptoms will become worse and that patients will drop out of treatment. Patients may indeed experience a worsening of PTSD symptoms before they get better; however, this effect appears to be temporary (Richard & Gloster, 2007; Cook, Schnurr, & Foa, 2004; Cornelius & Kenyon-Jump, 2007). Patients in exposure therapy do not drop out of therapy at a greater rate than patients receiving other types of psychotherapeutic techniques (Hembree & Cahill, 2007; Cahill, Foa, Hembree, Marshall, & Nacash, 2006; Cook, Schnurr, & Foa, 2004; Hembree, Foa, Dorfman, Street, Kowalski, & Tu, 2003) and starting exposure therapy has been associated with a higher likelihood of completing treatment (Zayfert et al., 2005).

The myth that patients do not want to engage in exposure therapy does not appear to have empirical support. Rothbaum and Schwartz stated, “on the contrary, the majority of patients have been willing to participate...” (2002). Zoellner, Feeny, Cochran, and Pruitt (2003) conducted a study to determine what factors influenced female assault victims choices about treatment options. The options offered to the participants included sertraline, PE, and no treatment. Overall ratings of sertraline and PE treatments were positive, however, the participants rated the credibility of the PE rationale more highly than the sertraline rationale and had more positive personal reactions to the PE treatment than the sertraline treatment. Surprisingly, the sertraline and PE treatments were not chosen equally by participants: 87.4% ( $n = 228$ ) of participants chose the PE treatment while only 6.9% ( $n = 18$ ) chose the sertraline treatment and 5.7% ( $n = 15$ ) chose no treatment. Zoellner, Feeny, Cochran, and Pruitt (2003) stated, “This finding is striking in that women are reporting that they would not choose an effective treatment option (i.e., sertraline) for chronic PTSD but are willing to choose directly confronting the trauma memory in therapy.”

The myths of reduced autonomy because patients are “forced” to recall painful memories; patients do not recover at their own pace; and that exposure therapy is rigid and not flexible in meeting individual patient’s needs have also been challenged. Rothbaum and Schwartz suggest understanding avoidance in PTSD is a key component. They stated the reason patients with PTSD have intrusive memories is because these memories have not been “adequately processed” and they have not been adequately processed because the memories are painful and therefore the patient avoids these memories further preventing them from being processed. Therapist attention to individual patient’s sensitivities and differences is vital however therapists need to keep in mind exposure needs to occur frequently enough and last long enough in order for the patient to

recover (Rothbaum & Schwartz, 2002). Therapist attention to patient needs will allow the patient to progress at a more customized pace and create flexibility in both exposure therapy and manualized treatments in general.

Rothbaum and Schwartz stated the myths of only using exposure on patients exposed to discrete trauma and that exposure only impacts symptoms related to PTSD and trauma-related anxiety are incorrect. They stated exposure therapy has been applied to different types of trauma populations and that most “strong affects” will respond to exposure therapy, including depression, rage, sadness, and guilt (2002).

***Need, purpose and significance of the study***

Considering the amount of empirical literature supporting the use of exposure therapy in the treatment of PTSD and the literature refuting common myths about the use of exposure for patients with PTSD, it would seem further studies regarding the deliberate choice to use exposure therapy on a patient with PTSD would be unnecessary. Unfortunately, despite the literature challenging myths about exposure, many professionals, including those trained in the use of exposure therapy for PTSD, do not regularly use exposure therapy to treat patients with PTSD symptoms (Becker, Zayfert, & Anderson, 2004).

The purpose of this study is to determine if a patient with severe PTSD, who was unsuccessfully treated with EMDR, can be successfully treated using a CBT treatment package including exposure therapy, deliberately chosen despite the myths and attitudes toward exposure therapy, in a teaching case involving a professor and supervisor at a graduate psychology program training clinic with 2 students who were neither formally trained in exposure therapy nor aware of the disputed myths about exposure therapy.

## ***Method***

### **Design**

A single-case design, using A-B with follow-up, was used to evaluate the outcome of exposure therapy treatment on a female survivor of a natural disaster who developed severe PTSD and did not respond to EMDR treatment. Change was evaluated by comparing pre-treatment, or “baseline,” scores on the Posttraumatic Cognitions Inventory (PCTI; Foa et al., 1991), Anxiety Sensitivity Index (ASI; Reiss et al., 1986), Beck Depression Inventory—Second Edition (BDI-II; Beck, Steer, & Brown, 1996), Social Interaction Anxiety Scale (SIAS; Mattick & Clark, 1998), and Social Phobia Scale (SPS; Mattick & Clarke, 1998) to the client’s scores after the treatment has been administered. Her scores on these measures were monitored throughout treatment. For each measure a reliable change index (RCI; Jacobsen & Truax, 1991) was calculated to determine if the client’s symptoms reduced to the subclinical range. If her scores on these measures indicated a reduction of symptoms from baseline to post-treatment and she achieved reliable change on these measures (as indicated by passing the clinical cutoff) the changes on the dependent variable (symptoms) can be attributed to the intervention (exposure therapy; Barlow, Nock, & Hersen, 2009).

### **Participants**

The participant is a previous therapy client involving a female survivor of a natural disaster who developed severe PTSD and did not respond to EMDR treatment.

### **Treatment**

15-20 sessions including in vivo exposure at Audubon society in December (looked like Vietnam during monsoon season).

### **Follow-up**

2 ½ years post-intervention.

#### Measures

Posttraumatic Cognitions Inventory (PCTI; Foa, E.B., Ehlers, A., Clark, D.M., Tolin, D.F., & Orsillo, S.M. (1999). The Posttraumatic Cognitions Inventory (PCTI): Development and validation.

Anxiety Sensitivity Index (ASI; Reiss, S., Peterson, R.A., Gursky, D.M., & McNally, R.J. (1986). Anxiety sensitivity, anxiety frequency and the predictions of fearfulness.

Beck Depression Inventory—Second Edition (BDI-II; Beck A.T., Steer R.A., Brown G.K.: Manual for Beck Depression Inventory II (BDI-II). San Antonio, TX, Psychology Corporation, 1996).

Social Interaction Anxiety Scale (SIAS; Mattick, R.P., & Clarke, J.C. (1998). Development and validation of measures of social phobia scrutiny fear and social interaction anxiety.

Social Phobia Scale (SPS; Mattick, R.P., & Clarke, J.C. (1998). Development and validation of measures of social phobia scrutiny fear and social interaction anxiety.

#### Statistics

Reliable change index

Clinical significance

#### ***Operational definitions***

The following terms will be used in this study as they are defined below:

*Posttraumatic Stress Disorder (PTSD)*: The collection of re-living, avoidance, and arousal symptoms that occur after a person has experienced a traumatic event that included either actual or threatened death or serious injury to the individual or others and resulted in the individual experiencing intense horror, helplessness, or fear in response to the event.

Exposure based therapies: A form of therapy to help the client change the association between specific situations, memories, emotions, objects, or people that have become associated with a traumatic event and thus results in the client experiencing intense fear. Two forms of exposure therapy include imaginal exposure or having the client recount their traumatic memories until they no longer result in high levels of distress, and in vivo exposure or having the client confront situations or stimuli they have been avoiding due to an association with the trauma they experienced without escaping the situation or stimuli until, after repeated exposures, the client's fears decrease and they no longer view the situation or stimuli as dangerous (Foa, Davidson, & Frances, 1999).

Eye Movement Desensitization and Reprocessing Therapy (EMDR): An information processing therapy that includes identifying the event that contributed to the development of PTSD, presenting stimuli that might trigger symptoms, and the use information processing with these triggers while engaging in eye movements simultaneously (Shapiro, 2002).

Reliable Change Index (RCI): A midpoint calculated based on the instruments used to measure a client's symptoms (e.g., the PCTI) that separate the "clinical" population (those who meet criteria for the disorder being evaluated by the measure) and the "subclinical" population (those who do not meet criteria for the disorder). The RCI therefore indicates whether or not a client has achieved a statistical "recovery" (i.e., no longer meets criteria for the disorder); however, this may not indicate that the client has achieved clinically significant change.

Clinical Significance: The movement of a client outside of the dysfunctional range of symptoms for a given disorder or to the mean of the functional population (Jacobson & Truax, 1991).

Successfully treat: Achieve scores on outcome measures that meet Reliable Change Index (RCI) and clinical significance guidelines as outlined in Jacobson and Truax (1991).

**Results**

The client completed the ASI, BDI-II, SIAS, SPS, and PCTI during each of her 20 sessions except for sessions 6, 9, and 11. She also completed these instruments for each of her three follow-up sessions. In order to evaluate the collected data the mean and standard deviations for clinical and non-clinical populations for each measure was obtained (Appendix A). This information was used to calculate the clinical cutoff for each measure to determine if the client achieved clinically significant change (Table 1) using the formula suggested by Jacobson & Truax (1991).

$$C = \frac{S_0M_1 + S_1M_0}{S_0 + S_1}$$

**Table 1**

Instrument	Clinical Cutoff ("C")	M Pre-treatment	M Post-treatment	M 5-Month	M 13-Month	M 24-Month	Passed C
ASI	24.90254777	59	1	4	2	4	Yes
BDI-II	16.8901455	44	1	5	0	5	Yes
SIAS 20	26.19484536	60	2	3	0	3	Yes
SPS 20	21.34280303	43	0	4	1	4	Yes
PCTI Total	84.03414418	185.95	43.03	46.09	48.05	40.98	Yes
PCTI (Negative cognitions about self)	1.935	6.38	1.43	1.48	1.67	1.48	Yes
PCTI (Negative cognitions about world)	3.633395522	4.71*	1	1.43	1.14	1.43	Yes
PCTI (Self-blame)	1.802919708	3.8	1.2	1	1	1	Yes

\*Client's score on this subscale did not meet or exceed the clinical mean, however it was larger than 1 standard deviation above the nonclinical mean.

This data, in addition to the test-retest reliability for each measure, was also used to calculate a Reliable Change Index (see formulas below) for each instrument to evaluate the progress the client made from pre-treatment to post-treatment and 5-month, 13-month, and 24-month follow-up to determine if the client achieved statistically significant change (RCI>1.96; Table 2) using the methods provided by Jacobson & Truax (1991).

$$S_E = S_1\sqrt{1 - r_{xx}}$$

$$S_{diff} = \sqrt{2(S_E)^2}$$

$$RC = \frac{X_2 - X_1}{S_{diff}}$$

**Table 2**

Instrument	r <sub>xx</sub>	S <sub>E</sub>	S <sub>diff</sub>	Pre-Treatment to Post-Treatment RC	Pre-Treatment to 5-Month RC	Pre-Treatment to 13-Month RC	Pre-Treatment to 24-Month RC
ASI	0.75	4.555	6.441742777	-9.003774601	-8.538062122	-8.8485371	-8.5380621
BDI-II	0.93	2.627231052	3.715465785	-11.57324612	-10.49666509	-11.842391	-10.496665
SIAS 20	0.92	4.016366517	5.68	-10.21126761	-10.03521127	-10.56338	-10.035211
SPS 20	0.93	3.042614008	4.302905995	-9.993246437	-9.063642117	-9.7608454	-9.0636421
PTCI Total	0.85	13.46249011	19.0388361	-7.506761404	-7.346037293	-7.2430898	-7.6146934
PTCI (Negative cognitions about self)	0.86	0.284365961	0.402154199	-12.30871146	-12.18438104	-11.711925	-12.184381
PTCI (Negative cognitions about world)	0.86	0.535057006	0.756684875	-4.902965716	-4.334697453	-4.7179481	-4.3346975
PTCI (Self-blame)	0.86	0.374165739	0.529150262	-4.913538149	-5.291502622	-5.2915026	-5.2915026

The client’s scores on each measure were above the clinical mean with the exception of one subscale score on the PTCI (negative cognitions about the world). On this subscale the client was more than one standard deviation above the nonclinical mean but her total score on this measure was clearly in the clinical range. On all measures the client passed the clinical cutoff (ASI C= 24.90; BDI-II C= 16.89; SIAS 20 C= 26.19; SPS 20 C= 21.34; PTCI Total C= 84.03; PTCI Negative Cognitions About Self C= 1.94; PTCI Negative Cognitions About World C= 3.63; PTCI Self-Blame C= 1.80) indicating she has obtained scores more similar to the nonclinical sample than the clinical sample thus demonstrating clinical significance.

To determine the statistical significance of the client’s post-treatment and 5-month, 13-month, and 24-month follow-up changes her scores on these measures were used to calculate her

RCI. The absolute value of the RCI for every measure, including the subscales of the PTCI, all exceed 1.96 at post-treatment (ASI RC= -9.00; BDI-II RC= -11.57; SIAS 20 RC= -10.21; SPS 20 RC= -9.99; PTCI Total RC= -7.51; PTCI Negative Cognitions About Self RC= -12.31; PTCI Negative Cognitions About World RC= -4.90; PTCI Self-Blame RC= -4.91), indicating the changes the client made during therapy are not only clinically significant but also statistically significant. Additionally, the scores at 5-month follow-up indicated reliable change that endured for at least 5 months post-treatment (ASI RC= -8.53; BDI-II RC= -10.50; SIAS 20 RC= -10.04; SPS 20 RC= -9.06; PTCI Total RC= -7.35; PTCI Negative Cognitions About Self RC= -12.18; PTCI Negative Cognitions About World RC= -4.33; PTCI Self-Blame RC= -5.29). The scores at 13-month follow-up indicated reliable change that endured for at least 13 months post-treatment (ASI RC= -8.85; BDI-II RC= -11.84; SIAS 20 RC= -10.56; SPS 20 RC= -9.76; PTCI Total RC= -7.24; PTCI Negative Cognitions About Self RC= -11.71; PTCI Negative Cognitions About World RC= -4.72; PTCI Self-Blame RC= -5.29). The client's scores at 24-month follow-up indicated reliable change that endured for at least 24 months post-treatment (ASI RC= -8.54; BDI-II RC= -10.50; SIAS 20 RC= -10.04; SPS 20 RC= -9.06; PTCI Total RC= -7.61; PTCI Negative Cognitions About Self RC= -12.18; PTCI Negative Cognitions About World RC= -4.33; PTCI Self-Blame RC= -5.29). The changes observed in the client's symptoms at post-treatment and 5-month, 13-month, and 24-month follow-up meet criteria for clinical significance and statistical significance, indicating this client was successfully treated and that change was not due to random error or chance. Therefore, the hypothesis that a client with severe PTSD who was unsuccessfully treated with EMDR could be successfully treated using exposure therapy despite the enduring myths related to the intervention administered by a professor and two students was supported.

***Discussion***

The purpose of this case study was to examine whether a severe case of PTSD, which was not responsive to EMDR, could be successfully treated using exposure therapy conducted by a professor who was also a supervisor of 2 graduate student clinicians who were not formally trained in exposure therapy nor aware of the disputed myths of exposure therapy.

***Significant Results***

The results of this case study indicate exposure therapy was successful at treating a client with severe PTSD that was unresponsive to EMDR treatment. The client was in the clinical range on measures of anxiety, with the exception of the “negative cognitions about the world” subscale on the PTCI, and upon completion of the exposure protocol and 5-month, 13-month, and 24-month follow-up the client was no longer in the clinical range and had achieved and maintained statistically significant change on all measures. This indicates the client was no longer suffering from symptoms related to posttraumatic stress disorder. This also suggests that PTSD can be successfully treated by exposure therapy despite current myths and a lack of formal or intensive training in exposure therapy.

***Limitations***

While this case study is further evidence of the value of exposure therapy, particularly for severe PTSD that has been resistant to other types of treatment, conclusions about the difference between the effectiveness of exposure therapy and EMDR cannot be clearly or undeniably demonstrated due to the lack of information about the training and experience of the EMDR clinician who provided treatment to this client prior to her receiving exposure therapy. It is possible the clinician was using EMDR incorrectly or that the client terminated treatment prematurely. Since this was a single case design, it is not possible to infer causality.

Additionally, one subscale of the PTCI was not in the clinical range. Overall, the score was elevated beyond 1 standard deviation from the mean, which could indicate the client was more similar to the clinical population score than the control population score on this particular subscale.

### ***Directions for Future Research***

It is clear that exposure therapy was effective in this case and the results are consistent with other research regarding outcomes of exposure therapy (Taylor, 2003b as cited in Taylor, 2004; Basoglu, Salcioglu, & Livanou, 2007). The results of this study are also consistent with the literature regarding increased effectiveness of exposure therapy compared to EMDR (Taylor, Thordarson, Maxfield, Fedoroff, Lovell, & Orgronczuk, 2003; Stapleton, Taylor, & Asmundson, 2007); however, it would be beneficial to conduct studies where EMDR was known to be applied correctly so the effectiveness of exposure therapy can be directly compared to EMDR and a control group.

While the current study demonstrated novice clinicians and an experienced supervisor could administer effective exposure therapy, it would be useful for further research to focus on reducing the impact of myths about exposure therapy and increasing a sense of confidence in exposure therapy. Research on increasing clinician confidence and disputing myths about exposure therapy could lead to better methods for training and building confidence in the use of exposure therapy, thereby increasing its use with clients suffering from PTSD.

### ***Summary***

Research supports the use of exposure therapy with PTSD and has also uncovered the existence of a variety of myths about exposure therapy that clinicians believe despite exposure therapy training. Clients appear to recognize the potential effectiveness of exposure therapy,

even when given the option of taking medications, and choose this treatment deliberately knowing they will have to face their fears. This study demonstrated the effectiveness of exposure therapy in a severe case of PTSD that was unresponsive to EMDR. Despite the myths about exposure therapy this study demonstrated that students and experienced clinicians can and should utilize exposure therapy methods to provide the highest quality and most effective treatment possible for PTSD.

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Appendix A

Instrument	Nonclinical Mean ( $M_0$ )	Nonclinical Standard Deviation ( $S_0$ )	Clinical Mean ( $M_1$ )	Clinical Standard Deviation ( $S_1$ )
ASI	19.1	9.11	32.1	11.3
BDI-II	12.56	9.93	22.45	12.75
SIAS 20	19.9	14.2	49	15.6
SPS 20	12.5	11.5	32.8	14.9
PTCI Total	45.5	34.76	133	44.17
PTCI (Negative cognitions about self)	1.08	0.76	3.6	1.48
PTCI (Negative cognitions about world)	2.07	1.43	5	1.25
PTCI (Self-blame)	1	1	3.2	1.74