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Running Head: PTSD TREATMENT PREFERENCES

An Analogue Study of Patient Preferences for Exposure versus Alternative Treatments for Post Traumatic Stress Disorder

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Abstract

Although several efficacious treatments for Posttraumatic Stress Disorder (PTSD) exist, these treatments are currently underutilized in clinical practice. To address this issue, research must better identify barriers to dissemination of these treatments. This study investigated patient preferences for PTSD treatment given a wide range of treatment options in an analogue sample. One hundred and sixty individuals, with varying degrees of trauma history, were asked to imagine themselves undergoing a trauma, developing PTSD, and seeking treatment. Participants evaluated seven different treatment descriptions which depicted treatment options that they might encounter in a clinical setting. Participants rated their most and least preferred treatments along with their personal reactions to and the perceived credibility of each treatment. Participants also completed a critical thinking skills questionnaire. Participants predominantly chose exposure or another variant of cognitive-behavioral therapy as their most preferred therapy, and those who chose exclusively empirically supported treatments evidenced higher critical thinking skills. The present study contributes to a growing literature indicating that patients may be more interested in these therapies than indicated by utilization rates. The problem of underutilization of empirically supported treatments for PTSD in clinical practice may be due to therapist factors.

An Analogue Study of Patient Preferences for Exposure versus Alternative Treatments for Post Traumatic Stress Disorder

1.1 Introduction

Strong empirical support exists for the use of exposure to treat posttraumatic stress disorder (PTSD: Foa, Keane, & Friedman, 2000). Despite this, research suggests that exposure remains underutilized in clinical practice (Becker, Zayfert, & Anderson, 2004; Foy et al., 1996; Rosen et al., 2004). For example, Becker et al. found that 83% of 207 licensed psychologists reported not using imaginal exposure to treat PTSD. Even among those who had been formally trained in exposure for PTSD (*n* = 59), 46% reported treating none of their patients with imaginal exposure, and only 15% reported routine use of exposure. Rosen et al. similarly found that less than 20% of PTSD experts in a VA setting reported routine use of exposure to treat PTSD.

Clinical underutilization of empirically supported treatments (EST), such as exposure, may result from therapist factors (e.g., lack of training, perceptions about the treatment), patient factors (e.g., credibility of treatment rationale, anticipation of discomfort), or an interaction of the two. An interaction might involve a patient expressing concern about an EST and a therapist, who is also uncomfortable with the EST, using the patient's concern to justify choosing an alternate treatment instead of reviewing the rationale or exploring the patient's concerns.

Although limited, research exploring therapist factors and use of exposure for PTSD currently highlights the role therapists may play in underutilization. For example, almost three quarters of the psychologists in Becker et al. (2004) reported that lack of training influenced their non-use of exposure. They also reported a high rate of perceived contraindications to exposure and concerns about complications resulting from use of exposure. Similarly, Najavits (2006) found that, compared to a present focused skills based intervention, clinician participants at a

workshop on the treatment of PTSD and substance use disorders rated an exposure-based intervention as significantly less appealing to conduct. The clinicians also rated exposure as less important for dual diagnosed PTSD patients and less safe in a group format, in an individual format, and when conducted as a short-term intervention (e.g., four months or less). In addition, participants endorsed greater concerns about exposure requiring specialized training. Taken together, results suggest that both lack of training and clinical concerns about exposure for PTSD may decrease therapists' use.

The limited research exploring patient factors, however, has produced differing results. For example, Zoellner, Feeny, Cochran, and Pruitt (2003) conducted an analogue study exploring patient preference for exposure versus medication. Female students with varying degrees of trauma history read a description of a traumatic event and subsequently indicated what they would do if they experienced that event. Given a forced choice of exposure, sertraline, or no treatment, participants overwhelmingly chose exposure. Exposure also was rated as more credible and produced more positive personal reactions. Results of this analogue study subsequently were largely replicated in a patient population (Feeny & Zoellner, 2004). The findings of this second study provide some support for the initial analogue approach.

Although the Zoellner et al. (2003) and Feeny & Zoellner (2004) studies provide preliminary evidence that patients may have fewer concerns about exposure for PTSD as compared to therapists, the forced choice results also can be interpreted as indicating that patients prefer psychotherapy over medication. Thus, these studies do not indicate the degree to which patients might select exposure as the treatment of choice when offered a range of psychotherapy options.

In an online analogue survey, Tarrier, Liversidge, and Gregg (2006) evaluated potential patient attitudes to a range of psychological PTSD interventions. Students rated 14 psychological treatments on a variety of scales and then ranked these treatments from most to least preferred. Tarrier et al. selected their interventions based on the PTSD treatment literature.

The interventions included: psycho-education, imaginal exposure, in vivo exposure, virtual reality exposure, guided imagery, cognitive therapy, cognitive therapy plus exposure, stress management, eye movement desensitization and reprocessing therapy (EMDR), computer based treatment including exposure and stress management, psychodynamic therapy, E-therapy conducted with a therapist over the internet, group therapy including exposure and stress management, and family therapy including problem solving. Cognitive therapy emerged as the therapy of choice; treatments involving exposure also were highly ranked (i.e., included in three of the five top ranked treatments) despite receiving high ratings on a scale assessing projected discomfort. All of the five highest ranking treatments in this study were presented as efficacious, suggesting that analogue patients seem attuned to treatment efficacy and appear willing to tolerate discomfort when deciding to enroll in a particular therapy. Interestingly, EMDR, which has some significant empirical support and appears popular among therapists, received some of the lowest ratings, suggesting that patients also may consider factors other than efficacy.

The results of Tarrier et al. (2006) support those found by Zoellner et al. (2003) and Feeny and Zoellner (2004), and suggest that exposure for PTSD may be of greater interest to patients than indicated by its current utilization in clinical practice. One limitation in the Tarrier et al. study, however, was the exclusion of a medication comparison. Thus, none of the studies listed above offered participants a range of psychotherapy options along with a medication option – a choice which theoretically should be available to patients in clinical settings.

A second potential limitation of Tarrier et al. is the extensive focus on variants of cognitive behavioral therapy (CBT). For example, depending on how one classifies EMDR, either 10 or 11 of the treatment options appear to be variants of CBT. In addition, over 50% of the interventions included exposure in some form or another. This is potentially problematic for two reasons. First, exposure may have been more highly rated because participants were influenced by its frequent appearance in the treatment descriptions. Second, although the

inclusion of many forms of CBT makes sense given that a) Tarrier et al. based their selection of treatments on the scientific PTSD treatment literature and b) CBT dominates this literature, it is unclear whether the scientific literature matches the range of treatment options to which individuals with PTSD may be exposed. For example, the internet often serves as a source of information for individuals with psychological disorders. During a quick internet search of "PTSD treatment," we found a website promoting "promising" PTSD treatments. These approaches consisted of a series of interventions that have been labeled the "power therapies" (see Devilly, 2005 for in depth discussion). Power therapies consist of interventions that typically rest on questionable theories and are associated with extensive and unsupported reports of extraordinary success rates and rapid effects (Devilly). With the exception of EMDR, which has received empirical scrutiny and support (Rothbaum, Astin, & Marsteller, 2005), most power therapies have not been subjected to rigorous scientific examination. Power therapies represent a concerning treatment option because their impressive, yet largely unsupported, claims may be attractive to traumatized individuals and lure them away from treatment with greater empirical support.

The purpose of the present study was threefold. First, we sought to extend and combine the analogue approaches of Zoellner et al. (2003) and Tarrier et al. (2006) by including both a range of psychological interventions for PTSD and a medication option. Second, we sought to include some potentially troublesome interventions (i.e., power therapies) that traumatized individuals might encounter. Tarrier et al. included one power therapy, EMDR, in their study. Among the power therapies, however, EMDR has the greatest amount of empirical support and claims regarding its efficacy largely have been scaled back over time (Devilly, 2005). Therefore, in addition to EMDR, we selected a power therapy, Thought Field Therapy (TFT), with strong claims that are supported by substantially less empirical evidence (see McNally, 2001 for review of TFT). To further explore the degree to which analogue PTSD patients might be drawn to interventions lacking solid scientific foundations, we also developed our own intervention for

PTSD, which we based on real therapy product. The description of this fabricated intervention was designed to make an intentionally absurd treatment, which in essence proposed that a blue stuffed creature could be used to treat PTSD, sound psychologically viable.

In a recent study, Sharp and Herbert (2006) found that professional psychologists who used techniques drawn from power therapies scored lower on a measure of critical thinking skills compared to psychologists who relied to a greater degree on techniques drawn from ESTs. Thus, the third goal of this study was to conduct a preliminary exploratory investigation as to whether or not critical thinking skills were similarly associated with treatment choice in analogue patients.

Although exposure was highly rated in the Zoellner et al. (2003), Feeny and Zoellner (2004), and Tarrier et al. (2006) studies, we hypothesized that exposure would not be highly chosen when a greater number of non-CBT psychotherapy options were offered in addition to a medication option. This hypothesis was based, in large part, on the low-utilization of exposure in clinical practice. In addition, based on Sharp and Herbert's (2006) study, we hypothesized that individuals who chose empirically supported treatments (e.g., exposure) over other therapies with less empirical support would evidence better critical thinking skills.

1.2 Method

1.2.1 Participants

One hundred and sixty students recruited from the psychology human subject pool at a small university participated in this study. The study was approved by the Trinity University Institutional Review Board, and students received course credit for their participation. Thirty-eight percent of participants were male and sixty-two percent of participants were female; participants had an average age of 18.64 (*SD* = .73).

1.2.2 Materials

1.2.2.1 *Treatment Descriptions*. Treatment descriptions outlined background information along with procedures, typical duration, efficacy information, and possible side effects for each

of seven treatments. The selected treatment options were designed to offer participants a choice of interventions that varied both in terms of orientation (e.g., CBT, psychodynamic, pharmacologic) and empirical support, so as to better represent the treatment options that individuals with PTSD may face both in clinical settings and when conducting their own research on the internet. We included one form of CBT that is strongly supported by the literature (i.e., exposure) and a pharmacological treatment also supported by research (i.e., sertraline). In addition, because many CBT therapists blend theoretical and practical elements from different types of CBT (Persons, 2005), we offered participants a more mixed CBT intervention that drew heavily from Cognitive Processing Therapy (Resick & Schnicke, 1992), yet also relied on some of the theory that often is used to support other forms of CBT for PTSD (Foa & Kozak, 1986).

Next, we included two forms of psychotherapy that appear popular among therapists despite having less empirical support than exposure and other variants of CBT (i.e., EMDR and psychodynamic psychotherapy). Finally, we included a power therapy with relatively little empirical support (i.e., TFT), along with our intentionally absurd made-up therapy which we based on an existing therapy product (i.e., My Therapy Buddy (MTB)). Treatment descriptions from Zoellner et al.'s (2003) study were used for sertraline and exposure to facilitate comparison of results. We generated the remaining treatment descriptions for this study. Descriptions were designed to match those for sertraline and exposure in terms of length and style. We based treatment information, including efficacy descriptions, on existing literature for each therapy. If no significant scientific literature existed regarding the efficacy of a particular treatment (e.g., for TFT or MTB), we used a statement such as "the results of this treatment speak for themselves," which is common claim of power therapies when marketed to lay audiences (e.g., see www.ritacanhelp.com/newsletter/12-96.html). The treatment description for MTB was closely based on clinical information provided at the website selling this product (www.mytherapybuddy.com), but differed in that we proposed that MTB could be used as the sole treatment for PTSD, a claim which is not made by the sellers of this product.

We constructed treatment descriptions to reflect actual information that might be presented to an individual who is seeking treatment for PTSD. The psychodynamic, EMDR, and CBT treatment descriptions were given to colleagues who use these therapies for critique. Because the sertraline and exposure descriptions were based on Zoellner et al. (2004), these were not sent out for review. We also did not send the TFT description for review because we did not have a TFT colleague with whom we could consult. As noted above, MTB was based on the description of the treatment provided on the associated website. Several faculty members in the psychology department, however, were asked to review the MTB description to judge whether the description sounded psychologically viable given what the treatment actually proposed; these colleagues also provided feedback on the TFT description. We sought to frame all therapies as viable treatment options, and all treatment descriptions were approximately of similar length, between 216 (EMDR) to 238 (MTB) words. See Appendix A for detailed treatment descriptions along with word counts.

1.2.2.2 Measures. Two scales assessed participants' opinions of each treatment: the Credibility Scale (CS; Addis & Carpenter, 1999) and Personal Reactions to the Rationale (PRR; Addis & Carpenter, 1999). The former scale assesses the degree to which participants find different treatment descriptions credible. The PRR, in contrast, assesses more personal reactions (i.e., does the individual think the treatment would work for him/her). Internal consistency for the PRR was good with alpha coefficients ranging from a low of .81 for exposure to a high of .95 for psychodynamic therapy in the present sample. We found similar results for the CS (α range = .85 (exposure) - .94 (psychodynamic therapy)).

Participants also indicated their two most and two least preferred treatments from the seven options. We chose to not have participants rank all treatment options because participants likely have stronger opinions about treatments they most and least want, versus those that fall in the middle. Thus, we did not want to over-interpret middle ranking positions.

A Critical Thinking Questionnaire (CTQ: Sharp & Herbert, 2006) evaluated participants' critical thinking skills. The CTQ was created by combining items from two established critical thinking measures (Ennis, Millman, & Tomko, 1985; Watson & Glaser, 1994) and another critical thinking source (Stanovich, 2001). Sharp and Herbert developed the CTQ to better target critical thinking skills relevant to psychology. Internal consistency in the present sample for this measure (α = .65) was somewhat lower than the internal consistency for the other measures.

We assessed psychopathology using the following self-report measures: the Posttraumatic Stress Diagnostic Scale (PDS; Foa, Cashman, Jaycox & Perry, 1997), Beck Depression Inventory-II (BDI-II; Beck, Steer, & Brown, 1996), and State-Trait Anxiety Inventory (STAI; Spielberger, Gorsuch, &Lushene, 1970). The PDS has satisfactory diagnostic agreement with interview measures of PTSD (Foa et al., 1997), and it demonstrated good internal consistency in the present sample (α = .89 for total symptom severity), as did the STAI (state α = .92; trait α = .87) and the BDI (α = .90).

1.2.3 Procedure

After a brief introduction to the study, participants completed informed consent forms, and then received a copy of the following trauma scenario:

Six months ago you went on a trip to New York City. After a show you decide to walk back to your hotel. On the way back, you were held up by a man with a knife in a secluded area on the street. He demanded your money, watch, and personal belongings and threatened that if you would not comply immediately, he would kill you. You gave him all that he asked, but he was not satisfied. He then began to beat and stab you violently. The next thing you knew, you woke up in a hospital after enduring several major surgeries. Since the incident, you have been experiencing difficulty sleeping and intrusive flashbacks where you feel as though you are back in that situation. Any time that you are invited out at night you typically refuse because you are afraid it might happen again. Also, you feel that you can't talk to your friends about what happened because they won't understand. In addition, you have felt more on edge lately and

are easily startled. Because your relationships and school work have suffered significantly, you decide to seek treatment at a counseling center for your symptoms. At the counseling center you are diagnosed with Post Traumatic Stress Disorder (PTSD). You now have a variety of options in terms of treatment. Referral will depend on which treatment most interests you.

An experimenter asked participants to imagine themselves in this situation and then read the scenario aloud to the participant. Participants then read treatment descriptions, which were given to them in random order, and completed CS and PRR forms for each therapy immediately after reading its description. After reading and evaluating all seven therapies, participants ranked their first and second most and their two least preferred choices for referral. Participants then completed the CTQ, followed by the BDI-II, STAI, and PDS. Participants were then debriefed and thanked for their participation.

1.3 Results

1.3.1 PTSD Diagnoses and Trauma Histories of Participants

Eleven participants (7%) met DSM-IV criteria for PTSD as assessed by the PDS (Foa et al., 1997). An additional 58 students (36%) reported experiencing a Criterion A traumatic event during their lifetime, but did not currently meet criteria for PTSD. Primary Criterion A events included motor vehicle accidents (24.6%), sexual assault (14.5%), physical assault (14.5%), witnessing a severe motor vehicle accident, death, or assault (14.5%), natural disasters (7.2%), terrorism, bombings, or fires (5.8%), suicide (1.4%), and other traumas (17.3%).

1.3.2 Most and Least Preferred Two Treatment Choices

Treatments were not selected equally as the number one choice by participants χ^2 (N =160) = 163.40, p <.0001. Contrary to our hypothesis, exposure was the most preferred therapy, with 51% of the sample selecting it. CBT (22%) was the second most preferred therapy. The remaining therapies were chosen in the following order: psychodynamic therapy, sertraline, TFT, and MTB (see Table 1). No participant selected EMDR as his/her number one

choice. The rank order of the therapies remained unchanged when the top two choices were combined, although the magnitude of difference between exposure and CBT decreased.

To examine the role of trauma history and likely PTSD diagnosis on treatment choice, we examined treatment choice among participants with a trauma history and those who met PTSD criteria based on the PDS. Of the 69 participants who met criteria for a Criterion A event (note: this sub-sample includes participants who met criteria for PTSD), 51% again ranked exposure as their top therapy choice. Compared to the overall sample, the rank ordering and percentage of participants selecting each therapy was largely unchanged (see Table 1).

Eleven participants met criteria for PTSD. Exposure (36%) and CBT (27%) were again the most preferred therapy choices, with the remainder of participants selecting sertraline and psychodynamic therapy equally. The only time in which the rank ordering of the selections changed occurred when we examined the top two therapy choices of individuals with likely PTSD. Under this circumstance, participants most frequently selected CBT, followed by exposure and psychodynamic therapy (selected equally), and sertraline (see Table 1).

Regarding the participants least preferred therapy choice, we again found that therapies were not selected equally, χ^2 (N =160) = 87.69, p <.001. MTB was the most frequently selected least preferred therapy choice (47%). EMDR, TFT and sertraline were endorsed at virtually identical rates with between 17% and 18% of participants ranking these interventions as their least preferred intervention. No participant selected exposure or CBT as their least preferred treatment choice; when least and second least choices were combined only a small percentage of participants selected exposure (1%), CBT (1%), or psychodynamic psychotherapy (3%).

1.3.3 Treatment Rationale

Mean ratings and standard deviations for the PRR and the CS for each type of treatment are displayed in Table 2. For both scales, the three most highly rated interventions were exposure, CBT, and psychodynamic psychotherapy. MTB and EMDR were the lowest rated interventions for both scales. To investigate the degree to which participants rated the treatment

rationales as equal in terms of positive personal reactions and credibility, we conducted two within subject repeated measures analysis of variance (ANOVA) using PRR and CS scores as the dependent variables. Because our hypotheses centered largely on exposure and because paired comparisons between each intervention would have resulted in 21 follow-up tests for each measure, we limited post-hoc comparisons to simple contrasts between exposure and the remaining treatments. For the PRR, there was a significant within subjects effect, F (6, 954) = 240.05, p = .0001, partial η^2 = .60, indicating that participants rated the interventions differently in terms of their personal positive reactions. Simple contrasts indicated that participants rated exposure more highly than each of the other treatments. For the CS, we again found a significant effect for treatment type, F (6, 924) = 177.66, p = .0001, partial η^2 = .54, and simple contrasts indicated that exposure was rated as more credible than each of the other interventions.

Analyses of PRR and CS scores in participants who reported a Criterion A event and those who met self-report criteria for PTSD indicated an identical pattern as described above with one exception. In the sample of participants who met criteria for PTSD (n = 11), the follow-up contrast analyses indicated no significant difference between exposure and CBT or exposure and psychodynamic therapy on either the PRR or CS. It should be noted, however, that the lack of significance appears to mostly be related to sample size. More specifically, the effect size of the difference between PR ratings for exposure and PR ratings for CBT were virtually identical in all three samples (total sample d = .68; Criterion A sample d = .74; PTSD sample d = .68).

1.3.4 Critical Thinking Scores

To examine the relationship between critical thinking and treatment choice, we recoded patients based on their two most preferred therapies. Because it is hard to argue that participants who choose exposure as their first therapy choice and CBT as their second should meaningfully differ with respect to critical thinking compared to participants who choose CBT

first and exposure second, we divided participants into two groups. Group 1 (*n* = 84) consisted of participants who selected exposure, CBT, and/or sertraline for both of their top two choices. These three treatments were described as having the most empirical support, which is the reason we chose to cluster them.

We had planned on comparing Group 1 to participants who exclusively chose interventions with limited empirical support (e.g., TFT, MTB) and to a group that chose a mix of interventions. This was not possible, however, because review of participant choices indicated that all participants selected at least one of the three most empirically supported treatment options (i.e., exposure, CBT, and Sertraline) as their first or second choice. As noted above, no participant selected EMDR for either their first or second choice. Thus second group (*n* = 76) comprised of participants who chose one of the three treatments in Group 1 along with psychodynamic treatment, TFT, or MTB.

As noted above, we hypothesized that participants who chose empirically supported interventions would evidence greater critical thinking skills than those who did not. Because both groups selected empirically supported interventions to some degree, we were unable to submit this hypothesis to as robust a test as we would have preferred (i.e., compare participants who chose no empirically supported interventions to those who did). Nonetheless, results of a one-tailed t-test provided some support for our hypothesis. Participants in Group 1 had a higher mean CTQ score (M = 18.82, SD = 3.03) compared to participants in Group 2 (M = 17.89, SD = 3.76), t (157) = 1.73, p = .04, Cohen's d = .27.

1.3.5 Relationship between depression / anxiety and credibility / personal reaction scores

In order to facilitate comparison with the study by Zoellner et al. (2004), we correlated BDI, state and trait anxiety scores with the CS and PRR scores. Using a Bonferroni correction ($p < .001$), we found that trait anxiety was associated with higher positive personal reactions to psychodynamic therapy (r = .28) and higher credibility scores (r = .27). No other correlations approached significance.

1.4 Discussion

The present study replicates findings from previous studies (i.e., Zoellner et al., 2003; Feeny & Zoellner, 2004; Tarrier et al., 2006) and suggests that patients may be more receptive to exposure for PTSD than indicated by current clinical practice utilization rates. Contrary to our hypothesis, exposure remained the most preferred treatment choice even when participants had the option of selecting more traditional psychotherapy (i.e., psychodynamic therapy), power therapies, and medication. This finding also held when we examined participants who had experienced a traumatic event. Although the percentage of participants ranking exposure as their first choice treatment decreased somewhat when we only examined participants who met self-report criteria for PTSD (from 51% to 36%), exposure still remained the most selected first therapy choice. Furthermore, over 50% of this sub-sample selected it as one of their two most preferred treatment options. Although the small sample size of the PTSD group limits the conclusions that can be drawn, the consistency of results, both within this study and across the three previous studies mentioned above, supports the interpretation that exposure may be significantly more acceptable to patients than many therapists expect. Furthermore, the fact that studies conducted in both the United States and United Kingdom, which have different health care systems and means of paying for psychological services, have produced similar results also suggests that results may point to the acceptability of exposure. Given that three of the studies (including this one) have used analogue samples, however, further research is needed with patient samples. This is particularly the case because one factor that may differentiate those who develop PTSD from those who do not is a propensity for avoidance (Keane & Barlow, 2002). Individuals who are more inclined to use avoidance as a coping strategy may be somewhat less inclined to pursue exposure secondary to their avoidant tendencies. Indeed, the fact that our small sample of participants with PTSD showed a slight decrease in preference for exposure compared to the total sample supports this concern. In addition, this sub sample showed an increased interest in sertraline as a first choice treatment (19% compared to 9% for

the total sample), an increase that mirrors that found by Zoellner et al. (22% in PTSD subsample compared to 7% in total sample).

Results from the PRR and CS basically mirrored those for treatment choice. Participants rated exposure as the most credible treatment and it also was associated with the most positive personal reactions. These results held even when we only examined data from participants who had experienced a traumatic event or participants who met criteria for PTSD.

Also consistent with the study by Tarrier et al. (2006), participants in the present study showed considerable interest in CBT with a stronger cognitive restructuring focus, and a surprising lack of interest in EMDR. Regarding participants' ranking of CBT generally, exposure and the cognitive restructuring intervention were the most consistently selected preferred therapy choices. Tarrier et al. similarly found that four of the five most highly ranked treatments were variants of cognitive restructuring and/or exposure and that the highest ranked treatment was cognitive therapy. Results from both studies indicate that patients may find empirically supported cognitive behavioral therapies for PTSD generally acceptable. Given the analogue nature of these studies and the fact that exposure and cognitive therapy were highly rated in both studies, we do not believe that the findings from these studies suggest a clear preference for cognitive therapy over exposure or vice versa.

As noted above, participants showed little interest in EMDR. In fact, EMDR was the only therapy not chosen by a single participant as either a first or second choice. This is interesting for several reasons. First, although participants in this study showed little interest in EMDR, EMDR appears to be a relatively popular treatment modality among clinicians (e.g., there is an international association, conference, and journal devoted to EMDR). The lack of correspondence between respondents in the present study and clinician interest in EMDR suggests that, as with exposure, there may be a disconnection between patient and clinician attitudes about PTSD interventions. Second, although it would be easy to dismiss this result as a random finding, Tarrier et al. (2006) found that EMDR was the second lowest ranked therapy

in their study. Thus, despite using different EMDR descriptions, both studies generated similar results. Third, it could be argued that results for EMDR might indicate experimenter bias. Indeed we fully admit that we have a preference for exposure and the other CBT intervention over EMDR. We also, however, prefer the empirical support backing EMDR compared to that available for psychodynamic therapy, TFT or MTB. Thus, our bias should have generated rankings in which EMDR was preferred over those treatments. This was not, however, what we found. Finally, although we attempted to keep the word counts similar, they were slightly different for the different treatment descriptions. Thus, it could be argued that word count influenced the decreased interest in EMDR given that it was associated with the lowest word count. However, MTB was the second least preferred treatment, and was associated with the highest word count. Furthermore, results from Tarrier et al. indicated that word length was not associated with the acceptability of treatment. Thus, it seems unlikely that word count played a significant role. In sum, we suggest that the EMDR finding, like that for exposure, may indicate a potential real difference between therapist and patient perceptions about these therapies.

If the results of the four studies investigating patient (or analogue patient) attitudes to PTSD treatments are correct in pointing to a possible misalignment of the PTSD treatments that therapists are drawn towards and those that patients prefer, then it will be important to identify why this is the case. For example, it may be that empirical support and a logical rationale matters more to patients, who are looking for relief. Results from Tarrier et al. (2006) also suggest that patients may be willing to endure anticipated discomfort if they believe that the treatment will help them. In contrast, some therapists may shy away from therapies that they perceive as requiring them to increase distress in patients, even if such interventions are supported by both a logical rationale and data. For example, it appears that some therapists find exposure unpalatable, regardless of the data that support the intervention. Rather, therapists appear to have problems with the likelihood of producing discomfort in patients, possibly in the form of exacerbated symptoms. More specifically, personal communications sent to this lab

after the publication of the Becker et al. (2004) study indicate that some therapists believe that straightforward exposure is “mean”; this perception is further supported by a popular press article that labeled exposure as the “cruelest cure” and cited “one clinician” as saying that exposure is “torture, plain and simple” (Slater, 2003). Thus, it may be fruitful to begin researching strategies for changing therapist attitudes about exposure.

One novel exploratory aspect of the present study was the inclusion of a measure of critical thinking skills. As noted above, Sharp and Herbert (2006) found that therapist critical thinking skills were associated with greater use of EST techniques. The present study found that patients who showed a greater interest in evidence based treatment, as indicated by choosing ESTs for both top therapy choices, scored higher on a measure of critical thinking as compared to those who chose a mix of empirically supported and alternate treatments. These studies represent a preliminary inquiry into the role that critical thinking skills may play in therapy preferences, particularly a preference for ESTs. As noted by Gambrill (2005), critical thinking is associated with both scientific reasoning and evidence based practice. Thus, emerging findings suggesting that ability to think critically may be associated with a preference for empirically supported techniques should, perhaps, come as no surprise. Nonetheless, given the difficulties encountered in disseminating ESTs into routine clinical practice, we suggest that it is important to better understand all of the factors that may influence therapy preferences, both from the perspective of a therapist and of a patient.

We were pleased to see relatively low interest in our intentionally absurd therapy, MTB. We also were pleased by the fairly low interest in TFT, even though the use of TFT appears to be alive and well in clinical practice. Two factors may account for this discrepancy. First, we could be observing a problem with sample bias in this study given that all participants were enrolled in a competitive university, which might elevate critical thinking skills generally and lead to decreased interest in TFT. One argument against this explanation is the fact that the participants’ CTQ scores ranged from 8 to 27, indicating marked variability in critical thinking

skills. Alternatively, it may be that patients buy into TFT when it is sold to them by an invested therapist, but might not select TFT if they were provided with a comprehensive set of treatment options. This explanation would, once again, suggest that the underutilization of ESTs such as exposure may be primarily driven by therapists not patients.

This study has a number of limitations, not the least of which is the use of an analogue sample. It can be argued that results from an analogue sample may not generalize to clinical populations; indeed, this is the reason that we encourage extension of this research with clinical populations. It also should be noted, however, that results from Zoellner et al. (2003) did largely generalize when the study was repeated with a clinical sample (Feeny & Zoellner, 2004). In addition, results in this study were fairly consistent even when we examined sub-samples that may be more similar to clinical populations. A second limitation relates to the actual treatment descriptions. It could be argued that descriptions that included more detail about the level of scientific support were stronger and, thus, that the study was biased. Theoretically, however, patients in clinical practice should be accurately informed about the level of scientific support for alternate treatments as part of informed consent. Thus, it did not appear to be accurate nor make sense to claim that un-tested treatments had extensive empirical support.

In summary, the present study adds to a growing body of research suggesting that exposure for PTSD may be an acceptable treatment option to many patients when they are presented with a range of treatment choices and accurate information about the evidence supporting the different interventions. The results from this study and previous research further suggest that there may be a disconnection between treatments that appeal to therapists and those that patients select. Future research is needed to better understand therapist attitudes about exposure for PTSD given that therapists, not patients, may be a driving force behind underutilization of this treatment in clinical practice.

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Table 1. Percent of participants who chose each therapy option as most or second most preferred

	Total Sample (*N* = 160)		Criterion A (*n* = 69)		PTSD (*n* = 11)	
	Top Choice (%)	Top 2 (%)	Top Choice (%)	Top 2 (%)	Top Choice (%)	Top 2 (%)
Exposure	50.6	71.3	50.7	66.7	36.4	54.6
CBT	21.9	58.1	17.4	53.6	27.3	63.6
Psychodynamic	15.6	38.1	15.9	39.1	18.2	54.6
Sertraline	8.8	23.8	11.6	24.6	18.2	27.3
TFT	2.5	6.9	2.9	8.7	0.0	0.0
MTB	0.6	1.9	1.4	4.3	0.0	0.0
EMDR	0.0	0.0	0.0	0.0	0.0	0.0

Note: Criterion A = all participants reporting lifetime occurrence of a criterion A event. PTSD = all participants meeting full criteria for PTSD. CBT = Cognitive Behavioral Therapy. EMDR = Eye Movement Desensitization Reprocessing. TFT = Thought-Field Therapy. MTB = My Therapy Buddy.

Table 2. Mean, standard deviation, and range on credibility scales, personal reactions to the rationales, critical thinking questionnaires, and psychopathology measures

Measure	*M*	*SD*	Range
PRR – Exposure	27.36	4.13	15-35
PRR - CBT	23.85	6.04	7-35
PRR - Psychodynamic	22.29	7.00	7-35
PRR - Sertraline	15.54	5.77	5-31
PRR - TFT	14.00	6.21	5-32
PRR - EMDR	11.83	5.18	5-29
PRR - MTB	10.89	5.29	5-29
CS - Exposure	36.32	5.88	18-49
CS - CBT	32.89	7.91	9-47
CS – Psychodynamic	29.29	9.42	7-48
CS – Sertraline	26.66	8.79	7-48
CS – TFT	19.72	8.84	7-44
CS – EMDR	16.47	6.85	7-42
CS - MTB	16.19	7.75	7-37
CTQ	18.38	3.41	8-27
BDI-II	9.78	7.57	0-45
STAI State	37.71	10.37	20-67
STAI Trait	39.25	9.50	24-66
PDS symptom severity[a]	6.45	6.82	0-32
PDS diagnosis	6.88%	N/A	N/A

Note: N = 160. [a] Symptom severity is calculated for those reporting a Criterion A event (*n* = 69). CBT = cognitive behavioral therapy. EMDR = eye movement desensitization reprocessing. TFT = thought-field therapy. MTB = my therapy buddy. CS = Credibility Scale. PRR = Personal Reactions to the Rationale. CTQ = Critical Thinking Questionnaire. BDI-II = Beck Depression Inventory – II, STAI = State-Trait Anxiety Inventory. PDS = Posttraumatic Diagnostic Scale.

Appendix A

Prolonged Exposure (227 Words)

Prolonged Exposure (PE) is a 9-12 session individual therapy that has been shown to be effective in the treatment of PTSD. Of the available psychotherapies used for PTSD, PE has undergone some of the most rigorous scientific evaluation; results of several controlled studies have shown it to significantly reduce PTSD symptoms, particularly in women. PE is a type of cognitive behavioral treatment, which is designed to specifically target a number of trauma-related difficulties.

If you choose this treatment for PTSD, you will meet once a week with your therapist for 60-90 minutes. You will not receive medication for your PTSD symptoms. Procedures in this treatment include: education about common reactions to trauma, breathing retraining (relaxation training), prolonged (repeated) exposure to trauma memories, repeated in vivo (i.e., in real life) exposure to situations that you are avoiding due to trauma-related fear. In other words, you will be encouraged to confront the memory of your trauma through repeatedly telling the story to your therapist and to confront things in your life that you are avoiding because they make you afraid (e.g., driving a car, walking on the street at night). In this program, you will be assigned "homework" to encourage you to practice in life the things you learn in therapy.

The risks associated with PE are mild to moderate discomfort when exposed to anxiety-provoking images, situations, and places.

Cognitive Behavioral Therapy (225 Words)

Cognitive behavioral therapy (CBT) is a treatment package developed for PTSD. CBT can be conducted in individual or group format and is completed in 12 sessions. CBT has undergone rigorous scientific evaluation and has been supported by clinical trials. An assumption of CBT states that information about trauma is stored in 'fear networks' in the brain. This network's purpose is to stimulate future avoidance to prevent another experience of

trauma; however, this network may be overactive and overly general in people experiencing PTSD. Negative self statements perpetuate these 'fear networks'. The goal of CBT is to process emotions and confront beliefs about the trauma and its implications for present-day living.

If you choose CBT, you will complete weekly 90-minute individual therapy sessions. You will not receive medication for your PTSD symptoms. You will be asked to write detailed narratives of the traumatic event and will read the narratives aloud in session and for homework. You will be provided basic education about feelings, given information about how self-statements affect emotions, and are encouraged to identify 'stuck points' (improperly processed emotions about the trauma) in your narrative and challenge improper beliefs about the trauma such as self blame. By doing this, you will find and maintain a balanced, realistic perception of the world.

Side effects of CBT include uncomfortable feelings and unsettling thoughts when remembering the trauma.

Pharmological treatment – Zoloft (218 Words)

Zoloft (Setraline) is an antidepressant that has been shown to be effective in the treatment of PTSD. Of the available medications used for PTSD, Zoloft has undergone some of the most rigorous scientific evaluation; it is the only FDA approved medication for the treatment of PTSD. Zoloft is a type of antidepressant called an SSRI, or, selective serotonin reuptake inhibitor, which is designed to have fewer side effects than older antidepressants (e.g., MAOIs, TCAs, SRIs).

If you choose this treatment for PTSD, you will take up to 200 mg of Zoloft daily for 10 weeks. In this treatment you will not talk extensively about your traumatic experience or be encouraged to confront situations or places you are avoiding. You will be seen weekly by a psychiatrist who will offer general encouragement and support, monitor your response to medication, and record any side effects you are experiencing. Your medication will be adjusted

according to a dosing schedule or as clinically indicated. At the end of 10 weeks, the medication will be tapered (reduced) gradually to minimize the chance of withdrawal symptoms with medication discontinuation.

The risks associated with Zoloft are mild to moderate side effects or withdrawal symptoms. Possible side-effects include loose stools, sweating, nausea, headache, fatigue, anorexia, weight loss or gain, sexual impairment, increased anxiety, restlessness, and insomnia.

Eye Movement Desensitization and Reprocessing (216 Words)

Eye Movement Desensitization and Reprocessing (EMDR) is a complex form of psychotherapy that borrows elements from other forms of therapy. Some research supports the use of EMDR. EMDR proposes that focusing on external stimuli- such as a moving visual object - promotes the processing of internal stimuli, such as traumatic memories. External stimuli may include bilateral hand tapping or having your therapist move his\her finger back and forth in front of your eyes.

If you choose EMDR, you will meet with a therapist for several sessions. Often the number of sessions is quite limited. You will not receive medication for your PTSD symptoms. You will identify the most vivid memory of your trauma and a negative belief. You will then focus on the memory image while moving your eyes back and forth and following the therapist's fingers. You will also need to monitor your body’s sensations. You will then be instructed to let your mind wander and or go blank. You will then catalogue your minds activities. Your therapist will then help you identify the next therapy target. You will also work on increasing positive beliefs.

EMDR has generally been associated with positive outcomes, and may sometimes be used in combination with other therapies. Risks include mental distress which can cause adverse arousal of the body.

Psychodynamic Therapy (230 Words)

Psychodynamic therapy has been used for over a century to treat traumatic symptoms. The goal of psychodynamic therapy is to make sense of the context of your trauma, and to make sense of defensive psychic processes that allow the unconscious to transform repressed memories into pathological symptoms. Psychodynamic therapy generally has not been rigorously evaluated in research trials because treatment tends to focus on psychic processes as opposed to psychological symptoms.

If you chose psychodynamic psychotherapy you will meet individually with a therapist who will help you *work through* the underlying issues so that you are able to understand the meaning of your unconscious processes. You will not receive treatment for your PTSD symptoms. The therapeutic relationship is a critical component of therapy, and this relationship will help you learn how to manage with your intense emotions. You also will work to achieve a balance between your subjective needs, the external demands of the world, and your traumatic memories. Your therapist generally will maintain a neutral stance during therapy. In other words, your therapist will not give you advice regarding what to do. Rather you will explore your feelings and behaviors so that you can gain insight regarding your symptoms, which will increase your awareness and allow you to better control your symptoms. Treatment may be long term.

Side effects of psychodynamic psychotherapy may include uncomfortable feelings and unsettling thoughts.

Thought-Field Therapy (226 Words)

Thought –Field therapy (TFT) is a treatment requiring only one, short session of therapy. Thought-field therapy treats many conditions including PTSD, phobias, anxiety, depression, arthritis pain, and insomnia. Although TFT has undergone few clinical trials, many people maintain that the results seen in TFT speak for themselves. TFT states that acupressure points

mediate energy flow in the body, and treatment using this approach focuses on balancing the body's energy system through reprocessing of memories while tapping the body's meridians.

If you choose thought field therapy, you will meet once with a therapist for 20 minutes. You will not receive medication for your PTSD symptoms. The session will begin by asking you to concentrate on the specific trauma associated with your distress. You will then rate the severity of distress, and, based on this rating, the therapist will ask you to tap your fingers on a specific meridian point. A focusing of attention to the trauma will then allow a release of energy through the previously blocked meridian. Results are seen immediately in relation to the trauma's 'thought-field'. You will be asked to rate your distress throughout the session in order to see results as they happen.

Few side effects of TFT have been documented other than initial discomfort in remembering the traumatic event, and successful thought-field treatment has even been correlated with improved heart rate variability.

My Therapy Buddy (238 Words)

My Therapy Buddy (MTB), a carefully researched transitional object, was designed to facilitate the internalization of your maternal relationship. Use of MTB builds critical and long lasting psychic structures which soothe you and overcome your traumatic experience. MTB is based on the Winnicottian notion of the universal need for a transitional object. Research has shown that transitional objects, such as MTB, significantly reduce depression and anxiety. MTB does this by acting as a midpoint between receiving comfort from others and the internalizing of maternal comfort. Although MTB was not specifically designed to treat trauma, the benefits of MTB have been so apparent that they speak for themselves. Thus, the use of MTB has been extended to the treatment of trauma.

If you choose this treatment for PTSD, you will rely on MTB whenever you feel anxious or sad. You will not receive any medication for your PTSD symptoms. The motto of MTB is

“everything is going to be alright.” You will use MTB in the privacy of your own home whenever you need comfort and emotional support. By softly touching the left or right foot of MTB, you can access the supportive words that one desires in a time of need. The gentle, huggable feel to MTB also provides critical physical comfort as well. Through repeated use, MTB becomes a vital soothing component that will facilitate the healing process.

The risks associated with MTB are minimal to none.