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Factors Related to Clinician Attitudes Toward Prolonged Exposure Therapy for PTSD

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This study examines pretraining attitudes toward prolonged exposure (PE) therapy in a sample of 1,275 mental health clinicians enrolled in a national PE training program sponsored by the U.S. Department of Veterans Affairs. Attitudes assessed via survey included values placed on outcomes targeted by PE, outcome expectancies (positive expectancies for patient improvement and negative expectancies related to patient deterioration, clinician time burden, and clinician emotional burden), and self-efficacy for delivering PE. Results indicated that clinicians were receptive to learning PE and had positive expectations about the treatment, but expressed concerns that PE might increase patient distress. Responses varied by clinician characteristics with psychologists, clinicians working in specialty PTSD treatment settings (as opposed to those in mental health clinics and other clinic types), and those with a primarily cognitive–behavioral orientation expressing attitudes that were most supportive of learning and implementing PE across various indicators. Implications for addressing attitudinal barriers to implementation of PE therapy are discussed.

Given the large number of persons affected by war, disaster, motor vehicle accidents, sexual and physical assault, and other traumatic events, dissemination of effective treatments for posttraumatic stress disorder (PTSD) is a public health priority (Ruzek & Rosen, 2009). Fortunately, effective treatments for PTSD do exist. Exposure therapy is one of the best-validated treatments for PTSD, with many randomized controlled trials attesting to its efficacy (e.g., Foa et al., 1999, 2005; Marks, Lovell, Noshirvani, Livanous, & Thrasher, 1998; Schnurr et al., 2007; Taylor et al., 2003). Despite the availability of exposure therapy and other effective evidence-based treatments (EBTs) for PTSD (e.g., cognitive processing therapy; Resick & Schnicke, 1993), many clinicians and mental health programs do not routinely offer these treatments (Becker, Zayfert, & Anderson, 2004; Rosen et al., 2004).

The most widely studied exposure therapy for PTSD is prolonged exposure (PE; Foa, Hembree, & Rothbaum, 2007). PE is a cognitive–behavioral intervention designed to help patients approach feared and avoided trauma-related memories and stimuli to overcome excessive anxiety and distress, and to process the traumatic experience. The treatment consists of four primary components: (a) imaginal exposure to the trauma memory to facilitate emotional processing of the event followed by discussion about the experience; (b) in vivo exposure, that is, engagement with nondangerous activities and situations that are avoided because of the trauma; (c) psychoeducation about treatment and common reactions to trauma; and (d) breathing retraining.

Barriers to effective dissemination and widespread implementation of PE and other EBTs include practitioner, patient, and system factors (Beidas & Kendall, 2010; Shojania & Grimshaw, 2005). With regard to practitioner factors, implementing PE presents specific challenges for some clinicians because the treatment entails having patients remember in great detail their most distressing trauma memory, eliciting the often painful emotions associated with these traumatic memories and reminders. Some clinicians report concerns about this causing patient dropout and symptom exacerbation, even though research has shown that dropout rates from PE are not high relative to other PTSD treatments and that symptom worsening only occurs in a small minority (10.5%) of clients and is not associated with worse outcome (Foa, Zoellner, Feeny, Hembree, & Alvarez-Conrad, 2002). Despite this evidence, some

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clinician attitudes continue to pose obstacles to dissemination of PE.

A survey of clinicians and researchers found that those who endorsed a cognitive–behavioral theoretical orientation had more favorable attitudes toward EBTs than those who endorsed psychodynamic, eclectic, or other orientations (Gray, Elhai, & Schmidt, 2007). Beidas and Kendall (2010) suggested that discrepant findings in the literature on therapist attitudes toward EBTs might be explained by therapist variables, including theoretical orientation and degree of clinical experience. They noted that some studies finding favorable attitudes included participants with a cognitive–behavioral orientation (Najavits, Weiss, Shaw, & Dierberger, 2000), whereas those that included practitioners with a wide variety of orientations were more negative (Addis & Krasnow, 2000). They also noted that therapists earlier in their careers may demonstrate more positive attitudes due to their being less set in their ways and more likely to have been trained in programs that promoted EBT (Aarons, 2004).

The first goal of the present evaluation was to describe beliefs and perceptions both about PE and its anticipated effects on patients and providers, prior to training in PE. The source was program evaluation data from the national VA PE Training Program that has been described in detail elsewhere (Karlin et al., 2010; Ruzek, Karlin, & Zeiss, 2012). A second goal was to identify factors associated with variation in clinician beliefs, such as theoretical orientation, years of clinical experience treating PTSD, professional discipline, and treatment setting.

Method

Participants and Procedure

Participants were 1,275 VHA mental health providers enrolled in the VA PE Training Program. To be eligible to participate, clinicians had to be permanently employed by the U.S. Department of Veterans Affairs (VA) as part- or full-time and licensed staff who were treating PTSD patients on a regular basis as part of their job duties. Participants were nominated to attend the training by their regional mental health leadership. Two thirds (66.6%, $n = 849$) of participants were female and provided either all individual or mostly individual psychotherapy (65.0%, $n = 825$). Almost half of all participants (43.9%, $n = 560$) worked in specialty PTSD clinics (including outpatient and residential programs); another 29.7% ($n = 378$) worked in general outpatient mental health clinics. One-hundred nine (8.5%) worked in primary care or postdeployment health clinics; 228 (17.9%) worked in other settings. Slightly more than half of the participants (55.8%, $n = 711$) were psychologists, over one-third were social workers (37.5%, $n = 478$), with 86 (6.7%) in other professions. Nearly two-thirds (62.0%, $n = 789$) described their primary theoretical orientation as cognitive, behavioral, or cognitive–behavioral (CBT); 26.3% ($n = 334$) indicated that their primary orientation was eclectic, integrative, or other, but included some cognitive–behavioral components (some CBT); and 11.7% ($n = 149$) indicated an orientation that did not include CBT. The majority (62.7%, $n = 798$) reported having 5 or fewer years of experience treating PTSD since completing their professional degree, 17.1% ($n = 218$) reported 6–10 years of experience, 7.4% ($n = 94$) reported 11–15 years of experience, and 12.8% ($n = 163$) reported over 15 years of experience.

Just over three quarters (76.7%, $n = 959$) indicated that they had never received formal training in PE. When asked to rate their level of expertise as a PTSD provider (on a scale from 1 = *I have no background in this area* to 5 = *I am an expert who can train others*), the average was slightly above a moderate level of expertise ($M = 3.31$, $SD = 0.89$). Finally, participants were asked to rate the extent to which they wanted to take part in the training initiative (on a scale from 1 = *Not at all* to 5 = *Very much*). Responses indicated strong interest in participation prior to training ($M = 4.76$, $SD = 0.54$).

As part of their participation in the training program, participants were asked to complete questionnaires immediately prior to the 4-day training workshop. Questionnaires were created to serve as the baseline data for a longitudinal evaluation of the training program. The response rate of the pretraining survey was 95.8%.

Measures

To assess the extent to which clinicians placed value on patient improvement as one of many treatment goals, participants used a 7-point scale from 1 = *Not at All a Consideration* to 7 = *A Most Important Consideration*. To assess outcome expectancies, participants responded to statements about potential positive and negative patient outcomes, clinician time burden, and emotional burden on the clinician using a scale from 1 = *Not at All Likely* to 7 = *Very Likely*. Participants also rated their self-efficacy for delivering elements of PE using a scale from 1 = *Not At All Confident* to 7 = *Very Confident*.

There were 106 similarly scaled attitudinal items common to both the pre- and posttraining surveys. To illuminate factors that were stable over time, separate analyses were conducted on pretraining and posttraining surveys. A principal components factor analysis was performed on all items using a varimax rotation to derive a final factor solution for each questionnaire. Items were then selected for inclusion if component loadings were .40 or higher on both pre- and posttraining assessments. Of the final 14 factors identified across questionnaires, 7 factors were relevant to the current investigation. The pretraining internal consistency of each of the seven factors was examined using Cronbach's α, which ranged from .66 to .95 (average = .77). A list of all the items in each subscale is available in Supplement Data Table 1.

These were the seven subscales (with number of items, alpha coefficients):

1. Helping Patients Improve (4, .66), focuses on perceived importance or value of promoting improvement in symptoms and functioning. A sample item is "Improving PTSD

patients' quality of life by helping them reinitiate activities that they have been avoiding."

2. Not Distressing Patients (5, .73), measures the perceived importance or value of avoiding increasing patient distress or destabilizing patients. A sample item is "Helping PTSD patients stay calm and keeping them from getting upset."
3. Positive Patient Outcomes (8, .91), focuses on the perceived likelihood that PE will produce various positive patient outcomes. A sample item is "My PTSD patients will re-initiate activities that they have been avoiding, improving their quality of life."
4. Negative Patient Outcomes (3, .69), measures the perceived likelihood that PE will lead to various negative outcomes. A sample item is "Some of my PTSD patients will decompensate and get worse because of PE."
5. Clinician Emotional Burden (2, .69), focuses on the perceived likelihood of the therapist experiencing negative emotional effects as a result of delivering PE. A sample item is "Hearing patients' trauma experiences will be emotionally draining for me."
6. Clinician Time Burden (4, .79), focuses on the perceived likelihood of the therapist experiencing negative time pressures associated with providing PE. A sample item is "Providing PE will take too much of my time."
7. Clinician Self-Efficacy (14, .95) to deliver a range of components of the PE intervention. A sample item is "I can effectively guide patients through imaginal exposure."

Data Analysis

Descriptive statistics were used to summarize provider beliefs prior to training. Within-subjects analyses of variance (ANOVAs) were used to examine differences between factors. To test for group differences between providers on pretraining factors assessing beliefs about PE, one-way ANOVAs with Bonferroni post hoc corrections for multiple comparisons were utilized. Logistic and linear regression models were used to assess the degree to which provider demographic characteristics were related to pretraining beliefs about PE. For regressions, analyses were limited to psychologists and social workers (93.3% of the sample), and years of PTSD experience was dichotomized into less experience (0–5 years) and more experience (6–20+ years).

Less than 1.5% of data points were missing among dependent variables included in analyses. Additionally, less than 1.0% of data points were missing across categorical predictors and factors. There was no a priori reason to believe that these missing values were not randomly occurring. Due to the high response rate (95.8%) and the relatively low incidence of missing values, no correction was made for missing values in reported analyses.

Results

Clinicians generally held positive views of PE. They placed high importance on goals related to helping patients improve such as reducing distress through the recalling and retelling of the traumatic experience (see Table 1). Therapist ratings about the importance of not distressing patients were moderate, indicating that they also expressed uncertainty about the degree to which patient comfort should be an important consideration when choosing a treatment approach. A within-subjects ANOVA indicated that therapists placed greater emphasis on goals related to helping patients improve than on not distressing patients, $F(1, 1273) = 1376.75$, $p < .001$, $\eta^2 = .52$.

Mean ratings for Positive Patient Outcomes indicated that clinicians believed that PE was likely to help their PTSD patients. Expectations of Negative Patient Outcomes were lower and concerns about Clinician Emotional Burden and Clinician Time Burden were even lower. A within-subjects ANOVA and post hoc pairwise comparisons indicated significant differences between all four of these outcome expectancies, $F(3, 1255) = 1746.94$, $p < .001$, $\eta^2 = .81$. Initial Self-Efficacy ratings were high, indicating that clinicians had high levels of confidence in their ability to deliver various PE treatment components even prior to attending PE training.

There was no significant difference between social workers and psychologists in self-reported desire to participate in PE training; both groups indicated strong interest ($M = 4.79$, $SD = 0.51$ and $M = 4.74$, $SD = 0.56$ out of 5, respectively), $t(1182) = -1.55$, $p = .121$. Social workers indicated to a greater extent than psychologists that not distressing patients should be an important consideration when developing a treatment approach, $t(1186) = 8.26$, $p < .001$, $d = 0.50$; psychologists expressed more concern about the likelihood that providing PE would contribute to clinician time burden, $t(1172) = 3.42$, $p = .001$, $d = 0.20$. Results for mean endorsement of attitudes by subgroup are included in Table 1.

Theoretical orientation was associated with degree of interest to receive training in PE, with CBT practitioners ($M = 4.79$, $SD = 0.51$) and practitioners with some CBT ($M = 4.72$, $SD = 0.58$) reporting the highest levels of interest, compared to practitioners who did not identify with a CBT orientation ($M = 4.69$, $SD = 0.60$), $F(2, 1264) = 3.34$, $p = .036$. A Bonferroni post hoc comparison, however, showed no significant group difference and the η^2 was .01 indicating no practical differences (Cohen, 1988). Those who identified with a CBT orientation also endorsed to a greater extent the importance of considering patient improvement (Helping Patients Improve) when selecting a treatment approach, compared to practitioners with some CBT and no CBT, $F(2, 1268) = 10.37$, $p < .001$, $\eta^2 = .02$. Theoretical orientation was related to the degree to which clinicians anticipated the likelihood of Positive Patient Outcomes, $F(2, 1262) = 6.54$, $p = .001$, $\eta^2 = .01$, with CBT practitioners anticipating somewhat better outcomes than practitioners with no CBT, but not more than practitioners with some CBT orientation. Finally, orientation was related to concerns about Clinician Time Burden, $F(2, 1252) = 10.08$, $p < .001$, $\eta^2 = .01$ with CBT clinicians expressing fewer concerns than either clinicians with some CBT or no CBT orientation. The level of concern, however, was relatively low in all groups.

Table 1
Subscale Means and Standard Deviations for All Demographic Groups

	Help improve		Not distress		Positive outcomes		Negative outcomes		Emotion burden		Time burden		Self-efficacy	
Variable	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Overall	6.04	0.80	4.74	1.06	5.69	0.80	3.50	1.02	2.86	1.22	2.68	1.18	5.50	1.00
Profession														
Psychologist	6.07	0.72	4.51	1.03	5.70	0.77	3.5	1.00	2.85	1.16	2.78	1.21	5.52	0.93
Social worker	6.03	0.87	5.01	1.03	5.68	0.84	3.52	1.05	2.85	1.28	2.54	1.13	5.48	1.08
Orientation														
CBT	6.15	0.78	4.73	1.08	5.75	0.78	3.47	1.05	2.82	1.22	2.56	1.13	5.49	1.00
Some CBT	5.95	0.79	4.75	0.99	5.62	0.80	3.59	0.99	2.96	1.16	2.84	1.23	5.48	0.98
No CBT	5.84	0.89	4.76	1.11	5.51	0.87	3.62	0.95	2.86	1.30	2.92	1.21	5.51	1.07
Years experience														
< 1	6.02	0.87	4.63	1.08	5.64	0.81	3.48	0.94	3.02	1.29	2.31	0.95	5.24	0.98
1–5	6.10	0.76	4.74	1.08	5.68	0.78	3.55	1.02	2.9	1.22	2.68	1.18	5.39	1.01
6–10	6.06	0.81	4.74	1.04	5.78	0.75	3.49	1.02	2.77	1.27	2.62	1.07	5.71	0.95
11–15	6.04	0.80	4.76	0.96	5.74	0.83	3.50	1.17	2.71	1.03	2.75	1.24	5.65	0.98
16–20	5.76	0.87	4.72	1.08	5.70	0.92	3.54	0.96	2.83	1.19	2.96	1.27	5.71	0.96
20+	5.84	0.81	4.89	0.96	5.48	0.88	3.48	1.05	2.74	1.34	3.10	1.41	5.82	0.95
Clinic type														
OP PTSD/PCT	6.08	0.76	4.58	1.09	5.67	0.82	3.53	1.01	2.85	1.16	2.66	1.23	5.52	0.97
OP MH	5.94	0.82	4.91	1.01	5.60	0.81	3.55	1.00	2.94	1.25	2.74	1.07	5.32	1.08
Primary/OEF/OIF/OND	6.10	0.78	4.68	1.03	5.93	0.71	3.54	0.99	2.73	1.20	2.47	1.07	5.73	0.88
PTSD residential	6.16	0.77	4.62	0.97	5.63	0.81	3.29	1.01	2.64	1.21	2.68	1.26	5.74	0.88
Other clinic type	6.05	0.83	4.84	1.08	5.78	0.75	3.53	1.10	2.92	1.30	2.69	1.24	5.55	0.99

Note. $N = 1{,}275$; PTSD = posttraumatic stress disorder; PCT = PTSD clinical team; OEF/OIF/OND = Operation Enduring Freedom/Operation Iraqi Freedom, Operation New Dawn; CBT = cognitive–behavioral therapy.
$^{*}p < .05$. $^{**}p < .01$. $^{***}p < .001$.

Relationships between theoretical orientation and attitudes, although statistically significant, were weak.

Practitioners with fewer years of clinical experience and fewer years treating PTSD expressed greater interest in PE training, $F(5, 1259) = 3.37$, $p = .005$, $\eta^2 = .01$, and $F(5,1261) = 3.00$, $p = .011$, $\eta^2 = .01$, respectively. Clinicians with 1–5 years of PTSD clinical experience placed greater importance on Helping Patients Improve than did clinicians with more than 16 years of PTSD experience, $F(5, 1266) = 3.74$, $p = .002$, $\eta^2 = .02$. Concerns about Clinician Time Burden generally increased with years of PTSD clinical experience, $F(5, 1250) = 6.18$, $p < .001$, $\eta^2 = .02$. Clinicians with 5 or fewer years of PTSD clinical experience indicated the lowest ratings of Clinician Self-Efficacy to deliver PE, $F(5, 1264) = 8.17$, $p < .001$, $\eta^2 = .03$. The weak strength of these associations indicates only a small effect of years of clinical experience on initial clinician attitudes toward PE.

The treatment goal of Helping Patients Improve using PE elements was moderately associated with clinic type, $F(4, 1268) = 2.56$, $p = .037$, $\eta^2 = .01$; however, a Bonferroni post hoc comparison showed no significant bivariate group differences on this measure. Clinicians working in outpatient PTSD clinics and PCTs placed less emphasis on concerns about not distressing patients when making treatment decisions than clinicians in outpatient mental health clinics, PTSD residential rehabilitation programs, primary care, or Operation Enduring Freedom/Operation Iraqi Freedom/Operation New Dawn (OEF/OIF/OND) clinics (outpatient clinics serving U.S. veterans who served in Afghanistan and Iraq), $F(4, 1268) = 5.94$, $p < .001$, $\eta^2 = .02$. Outpatient mental health clinic providers had the lowest ratings of Clinician Self-Efficacy to deliver PE, whereas primary care or OEF/OIF/OND clinic providers expressed the highest, $F(4, 1266) = 5.93$, $p < .001$, $\eta^2 = .02$. Finally, Positive Patient Outcome expectancies were higher for providers in primary care or OEF/OIF/OND clinics than for providers in other locations, $F(4, 1262) = 4.53$, $p = .001$, $\eta^2 = .01$. These differences among clinic types, although statistically significant, were very small.

Results of multiple regression analyses indicated that clinician profession, theoretical orientation, years of PTSD clinical experience, and clinic type were associated with clinician attitudes on all seven factors prior to training. Highly valuing treatment goals focused on helping patients improve was associated with having fewer years of PTSD clinical experience (*B*

$= -0.10$, standard error [SE] $= 0.05$, $\beta = -.06$, $p = .027$), and having a primarily CBT orientation (some CBT vs. primarily CBT: $B = -0.16$, $SE = 0.05$, $\beta = -.09$, $p = .002$; not CBT vs. primarily CBT: $B = -0.20$, $SE = 0.08$, $\beta = -.08$, $p = .008$), and negatively associated with working in a general mental health clinic rather than a PTSD specialty clinic ($B = -0.14$, $SE = 0.05$, $\beta = -.08$, $p = .011$); model $R^2 = .03$, $F(7, 1175) = 4.35$, $p < .001$. Greater endorsement of treatment goals focused on not distressing patients was associated with being a social worker ($B = 0.49$, $SE = 0.06$, $\beta = .23$, $p < .001$), and secondarily with providing services in an outpatient mental health clinic ($B = 0.24$, $SE = 0.07$, $\beta = .11$, $p = .001$) or other type of clinic ($B = 0.26$, $SE = 0.08$, $\beta = .10$, $p = .002$) rather than a PTSD specialty clinic; model $R^2 = .07$, $F(7, 1175) = 12.48$, $p < .001$.

Greater expectation of positive patient outcomes from PE was associated with having a primarily CBT orientation (some CBT vs. primarily CBT: $B = -0.16$, $SE = 0.05$, $\beta = -.09$, $p = .004$; not CBT vs. primarily CBT: $B = -0.26$, $SE = 0.08$, $\beta = -.10$, $p = .001$), and working in a primary care clinic rather than a PTSD specialty clinic ($B = 0.28$, $SE = 0.09$, $\beta = .10$, $p = .001$); model $R^2 = .02$, $F(7, 1169) = 5.25$, $p < .001$. Greater expectation of clinician emotional burden was negatively related to years of PTSD clinical experience ($B = -0.21$, $SE = 0.07$, $\beta = -.08$, $p = .005$), and positively associated with working in an outpatient mental health clinic rather than a PTSD specialty clinic ($B = 0.17$, $SE = 0.09$, $\beta = .06$, $p = .048$); model $R^2 = .02$, $F(7, 1161) = 2.75$, $p = .008$. The strongest correlates of anticipated clinician time burden were being a psychologist rather than a social worker ($B = 0.25$, $SE = 0.07$, $\beta = .11$, $p < .001$), more years of PTSD clinical experience ($B = 0.19$, $SE = 0.07$, $\beta = .08$, $p = .010$), not having CBT as one's primary theoretical orientation (some CBT vs. primarily CBT: $B = 0.27$, $SE = 0.08$, $\beta = .10$, $p = .001$; no CBT vs. primarily CBT: $B = 0.40$, $SE = 0.11$, $\beta = .11$, $p < .001$), and working in a PTSD specialty clinic as opposed to a primary care clinic ($B = -0.28$, $SE = 0.13$, $\beta = -.07$, $p = .031$); model $R^2 = .04$, $F(7, 1161) = 6.79$, $p < .001$. Finally, having more years of experience treating PTSD ($B = 0.37$, $SE = 0.06$, $\beta = .18$, $p < .001$) and working in a specialty PTSD clinic rather than an outpatient mental health clinic ($B = -0.28$, $SE = 0.07$, $\beta = -.13$, $p < .001$) was associated with higher ratings on Clinician Self-Efficacy for delivering PE, $R^2 = .05$, $F(7, 1173) = 9.01$, $p < .001$. Of the seven scales, only expectation of Negative Patient Outcomes was not related to variables in the model, but the group differences were small and in the total model variance accounted for was quite limited.

Discussion

In this evaluation, pretraining perceptions of the value of treatment goals, outcome expectancies, and self-efficacy related to the use of PE were assessed to examine in a large sample of VA clinicians beginning training attitudes and beliefs thought to relate to adoption and implementation of PE in routine practice. Overall, the pattern of results indicated that clinicians in the VA health care system who were nominated for competency-based training in PTSD treatment were receptive to learning PE and had generally positive expectations about the treatment, although some clinicians expressed concerns about increasing patient distress.

Several clinician characteristics were associated with specific attitudes toward PE. Practitioners with fewer years of general clinical experience and with fewer years treating PTSD expressed greater interest in receiving PE training, placed greater importance on helping patients improve by implementing PE elements, and were less concerned about distressing patients. These findings are consistent with prior work by Aarons (2004) indicating that less-experienced PTSD treatment providers are more open to bringing evidence-based psychotherapies into their practice. Consistent with prior findings reported by Beidas and Kendall (2010), we found that having a primarily cognitive–behavioral orientation was associated with attitudes likely to increase receptivity and uptake of the intervention, including placing more value on helping patients improve, higher positive patient outcome expectancies, and less anticipation of time burden. Although the relationships between theoretical orientation and attitudes were statistically significant, most were extremely weak.

Attitudes also varied by practice setting. Generally, clinicians in specialized PTSD treatment settings were somewhat more committed to achieving symptom improvement goals consistent with PE treatment and less concerned about distressing patients during the treatment process. They had higher expectancies for positive outcomes, less expectation of emotional burden on themselves, and more confidence in their ability to deliver the components of PE. Compared with clinicians who work in general mental health settings, clinicians who specialize in the treatment of PTSD had attitudes that were somewhat more supportive of learning and implementing PE. Possibly, clinicians operating in specialty PTSD clinics have greater familiarity with PTSD-specific treatments or may anticipate more management support for delivering trauma-focused treatments.

Finally, there were some differences in attitudes between professional disciplines. Social workers were more likely than psychologists to endorse the importance of not distressing patients. Social workers also expressed less concern about PE creating unmanageable burdens on their time. It is possible that differences in role and discipline-specific work activities may account for some of these differences between psychologists and social workers. Observed differences, though statistically significant, were small.

Results showed that clinicians rated their self-efficacy for delivery of PE very highly, even though ratings were obtained prior to training in the intervention and almost all participants had not previously received training in PE. It seems likely that confidence in personal ability to deliver an intervention may not necessarily be associated with actual competence, and that some clinicians may underestimate the

complexity of a treatment before they have been trained in it.

One limitation of these results is the use of new measures that have not previously been validated. The factor analysis conducted in the current effort had not been replicated; and findings were generated from the same sample that produced the factors. Nevertheless, subscales demonstrated reasonable internal consistency (especially given the small number of items) and conceptually similar items loaded on the same factor. Another important limitation is that clinicians participating in the training cannot be assumed to be representative of the larger population of VA mental health clinicians. Participants were nominated by mental health leadership, and except for some basic inclusion and exclusion rules, criteria for selection of participants were not specified. Although we believe the large sample is likely to reflect VA mental health clinician views more generally, it is possible that individuals interested in learning PE may have been more likely to be selected. Alternatively, some may have been "volunteered" by their leadership to be trained in the national initiative. Moreover, over 60% of participants had 5 or fewer years of experience treating PTSD since completing their professional degree. We believe this reflects the fact that the VA has significantly increased the size of its mental health workforce in the last few years, but it is also possible that this group may have been more interested in learning PE or more likely to be selected for participation. Other limitations of the findings include the fact that results may not generalize to other groups of mental health treatment providers or other health care systems outside of the VA. In addition, results are specific to the PE intervention, and may or may not generalize to beliefs about other EBTs. Finally, although there were many statistically significant findings, many of the effect sizes for group comparisons were extremely small.

We believe the overall pattern of results has implications for the design of training programs and implementation projects related to PE. First, some negative attitudes toward PE were present prior to initiation of training. Clinicians were moderately concerned about PE causing distress and negative patient outcomes. These attitudes, although not strong, may still represent a significant attitudinal obstacle, particularly for those with a social work background and those working outside of PTSD specialty programs. PE training initiatives should anticipate such attitudes and address them in training. In the VA PE Training Program, these concerns were explored during training, and data were presented showing that symptom exacerbation is relatively infrequent and does not predict worse treatment outcomes (Foa et al., 2002). The impact of training on these attitudes to ensure that training was adequately addressing them was also monitored. Nevertheless, it may be useful to assess attitudes of potential trainees towards new practices prior to the initiation of training to inform the design of the training itself. In the present data, for example, findings suggested that clinicians with more experience treating PTSD tended to be more skeptical about the value of PE and might benefit from additional attention in the training process. Overall, however, in this large multidisciplinary population, mental health providers were quite receptive to learning and using PE.

Our findings also have some broader potential implications for dissemination and implementation of PE, and for implementation science more generally. First, concerns about helping patients improve and not distressing patients emerged as orthogonal factors. Thus, clinicians may simultaneously value both reducing symptoms and not destabilizing clients, and may have to weigh both considerations in making treatment decisions. The relative weight they put on these goals may depend on their role. Someone providing brief support and case management in a busy primary care or general mental health setting may be primarily concerned with forestalling clinical crises; a provider who has time to see patients more frequently may be more willing to risk short-term increases in distress on the way to producing long-term improvement. Relatedly, positive and negative patient outcome expectancies for PE were separate factors rather than opposite ends of a single dimension. A clinician could initially be very ambivalent about learning exposure, holding both high hopes for what exposure could achieve and worries about potential adverse effects. It is especially important to consider that clinicians have important attitudes about treatments unrelated to their impact on patients. If exposure therapy helps patients improve, providers may feel more efficacious and fulfilled in their work. Yet providers can also have legitimate concerns about how adopting PE will add to the time burden and the emotional stress of their job. Practice guidelines consider only potential benefits and risks to patients; however, adoption and sustained use of practices are likely to be driven by concerns about how these practices affect clinicians themselves, not only their patients. In terms of the study of implementation, the current evaluation is significant for describing the attitudes of a large mental health workforce about an evidence-based treatment. Research on provider (and patient attitudes) towards PTSD treatments is increasing. Nevertheless, most existing studies have tended to use convenience or analogue samples, and the relatively small amount of research in this area has focused on only a few areas of provider attitudes. More attention to provider perceptions of specific treatments and other service-relevant issues is required to help improve efforts to promote best practices and increase engagement by mental health providers.

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