Journal of Anxiety Disorders 27 (2013) 772–780

Contents lists available at ScienceDirect

Journal of Anxiety Disorders

Assessing therapist reservations about exposure therapy for anxiety disorders: The Therapist Beliefs about Exposure Scale

Brett J. Deacon [a,*], Nicholas R. Farrell [a], Joshua J. Kemp [a], Laura J. Dixon [a], Jennifer T. Sy [a], Annie R. Zhang [a], Patrick B. McGrath [b]

[a] University of Wyoming, USA
[b] Alexian Brothers Behavioral Health Hospital, USA

ARTICLE INFO

Keywords:
Exposure therapy
Cognitive-behavioral therapy
Anxiety disorders
Dissemination

ABSTRACT

Exposure therapy is underutilized in the treatment of pathological anxiety and is often delivered in a suboptimal manner. Negative beliefs about exposure appear common among therapists and may pose a barrier to its dissemination. To permit reliable and valid assessment of such beliefs, we constructed the 21-item Therapist Beliefs about Exposure Scale (TBES) and examined its reliability and validity in three samples of practicing clinicians. The TBES demonstrated a clear single-factor structure, excellent internal consistency (αs = .90–.96), and exceptionally high six-month test–retest reliability (r = .89). Negative beliefs about exposure therapy were associated with therapist demographic characteristics, negative reactions to a series of exposure therapy case vignettes, and the cautious delivery of exposure therapy in the treatment of a hypothetical client with obsessive-compulsive disorder. Lastly, TBES scores decreased markedly following a didactic workshop on exposure therapy. The present findings support the reliability and validity of the TBES.

1. Introduction

A substantial body of research demonstrates the effectiveness of exposure-based cognitive behavioral therapy (CBT) for the anxiety disorders (Deacon & Abramowitz, 2004; Olatunji, Cisler, & Deacon, 2010). Exposure therapy (also known as exposure and response prevention) is the central procedure in numerous empirically supported treatment protocols for post-traumatic stress disorder (PTSD; e.g., Schnurr et al., 2007), obsessive compulsive disorder (OCD; e.g., Foa et al., 2005), social phobia (e.g., Davidson et al., 2004), panic disorder and agoraphobia (e.g., Gloster et al., 2011), and specific phobias (e.g., Ollendick et al., 2009). Exposure to feared stimuli is an empirically supported principle of change for pathological anxiety (Abramowitz, Deacon, & Whiteside, 2010; Lohr, Lilienfeld, & Rosen, 2012), and the need to train clinicians in the competent delivery of exposure has been identified an important healthcare priority (McHugh & Barlow, 2010).

Unfortunately, exposure therapy is underutilized by practitioners and difficult for clients to access. Most therapists, even those with specialized training in exposure therapy, rarely provide this treatment to their anxious clients (Becker, Zayfert, & Anderson, 2004; van Minnen, Hendriks, & Olff, 2010). When clinicians use exposure therapy its implementation often differs markedly from the typically prolonged and intense manner recommended in treatment manuals (Deacon, Lickel, Farrell, Kemp, & Hipol, 2013; Freiheit, Vye, Swan, & Cady, 2004; Hipol & Deacon, 2013). Most clients with anxiety disorders do not receive efficacious treatment of any kind, and few receive competently delivered exposure therapy (Böhm, Förstner, Külz, & Voderholzer, 2008; Young, Klap, Shoai, & Wells, 2008).

Negative beliefs about exposure therapy appear common among practitioners and likely pose an important barrier to the dissemination of this treatment (Feeny, Hembree, & Zoellner, 2003; Gunter & Whittal, 2010; Olatunji, Deacon, & Abramowitz, 2009; Zoellner et al., 2011). Therapists may fear that exposure will harm clients by producing cognitive decompensation (Becker et al., 2004), symptom exacerbation (Cook, Schnurr, & Foa, 2004), and physical harm (Rosqvist, 2005). To illustrate, Deacon et al. (2013) found that exposure therapists reported concerns that prolonged and intense interoceptive exposure would cause panic clients to decompensate, lose consciousness, experience a worsening of symptoms, and drop out of therapy. Therapists may also worry that exposure will harm themselves via vicarious traumatization (Zoellner et al., 2011) or malpractice litigation (Kovacs, 1996). Additionally, therapists may believe that the deliberate evocation of anxiety in exposure therapy is inherently unethical (Olatunji et al., 2009), unacceptably aversive to clients (Zoellner et al., 2011), and increases dropout rates (van Minnen et al., 2010). Finally,

* Corresponding author at: University of Wyoming, Department of Psychology, Department 3415, 1000 East University Avenue, Laramie, WY 82071, USA. Tel.: +1 307 761 2588; fax: +1 307 766 2926.
E-mail address: bdeacon@uwyo.edu (B.J. Deacon).

0887-6185/$ – see front matter © 2013 Elsevier Ltd. All rights reserved.
http://dx.doi.org/10.1016/j.janxdis.2013.04.006

therapists may believe that exposure is insensitive to the unique needs of the client and requires concomitant treatment strategies (e.g., controlled breathing) to be safe, tolerable, and effective (Feeny et al., 2003).

Despite a wealth of anecdotal reports that therapist reservations about exposure therapy impede its dissemination and optimal delivery, little empirical research has examined these issues. Several studies have demonstrated that therapist concerns about exposure are linked to its underutilization (e.g., Becker et al., 2004; van Minnen et al., 2010). Two studies have examined the association between negative beliefs about exposure therapy and the manner in which it is delivered. Deacon et al. (2013) reported that therapists with greater concerns about the dangers of intense and prolonged interoceptive exposure for panic disorder were more likely to use controlled breathing strategies with their clients. Using an experimental design with an analog therapist sample, Farrell, Deacon, Kemp, Dixon, and Sy (in press), found that therapists with negative beliefs about exposure delivered this treatment in a more cautious manner to a confederate client with OCD. These preliminary research findings are consistent with the notion that therapist reservations about exposure may compromise its effective delivery. To illustrate, theorists have suggested that beliefs about the intolerability and dangerousness of exposure therapy may prompt clinicians to select less anxiety-evoking exposure tasks, permit clients to use safety behaviors, encourage the use of arousal-reduction strategies, and fail to expose clients to their most feared situations (e.g., Deacon & Farrell, 2013; Rothbaum & Schwartz, 2002).

Little empirical research exists to substantiate widespread speculation that negative beliefs about exposure are pervasive among clinicians and impede its competent delivery. A principal reason for this state of affairs is the absence of a reliable and valid measure of therapist reservations about exposure therapy. Historically, reports of therapist concerns about exposure therapy have been theoretical (e.g., Olatunji et al., 2009) or relied on study-specific items with unknown psychometric properties (e.g., Becker et al., 2004). The availability of a reliable and valid measure would inform future research by permitting the empirical examination of the frequency and consequences of negative practitioner beliefs about exposure therapy. Accordingly, the present series of studies were conducted to characterize the psychometric properties and construct validity of a novel measure: the Therapist Beliefs about Exposure Scale (TBES). With items based on therapist reservations about exposure identified from a comprehensive review of the existing literature (e.g., Becker et al., 2004; Deacon & Farrell, 2013; Feeny et al., 2003; Gunter & Whittal, 2010; Olatunji et al., 2009; van Minnen et al., 2010; Zoellner et al., 2011), the TBES was developed to provide an efficient, reliable, and valid assessment of a wide range of therapist reservations about exposure therapy. Three studies were conducted to examine the following characteristics of the TBES: (a) psychometric properties (e.g., factor structure, internal consistency, test–retest reliability), (b) association with therapist demographic characteristics, reactions to clinical depictions of exposure, and exposure therapy delivery style, and (c) modifiability following didactic training in exposure therapy.

2. Study 1: psychometric properties and preliminary construct validity of the Therapist Beliefs about Exposure Scale

2.1. Methods

2.1.1. Participants

In an attempt to obtain a diverse and nationally representative sample of practitioners who provide psychotherapy to clients with anxiety disorders, email invitations were sent to members of therapist directories and were posted on electronic mailing lists representing numerous mental health professions and clinical specialties in the United States. Participants were recruited from the following online therapist directories: Academy of Cognitive Therapy, American Association of Pastoral Counselors, Anxiety Disorders Association of America, Association of Behavioral and Cognitive Therapies, Association for Comprehensive Energy Psychology, EMDR International Association, Family and Marriage Counseling, and the International Obsessive Compulsive Disorder Foundation. Email solicitations were also posted on electronic mailing lists for the Counselor Education and Supervision Network, and APA Divisions 29 (Psychotherapy), 53 (Society of Clinical Child and Adolescent Psychology), 54 (Society of Pediatric Psychology), and 56 (Trauma Psychology). The survey was initiated by 923 therapists, 637 of whom completed all TBES items and comprised the final sample. Given the indeterminate number of individuals who received invitations to participate in this study, it was not possible to calculate a precise response rate.

The mean age of the sample was 35.3 years (SD = 12.2) and the majority of participants were women (n = 433; 68.0%) and Caucasian (n = 603; 94.7%). Most therapists reported earning a master's degree (n = 291; 45.7%), Ph.D. (n = 244; 38.3%), or Psy.D. (n = 39; 6.1%). Membership in mental health professions was as follows: clinical psychology = 39.2% (n = 250), social work = 21.5% (n = 137), counseling psychology = 12.2% (n = 78), counseling = 11.6% (n = 74), marriage and family therapy = 11.1% (n = 71), and pastoral counseling = 4.7% (n = 30); 84 participants (13.2%) reported affiliations with other mental health professions (some participants selected multiple professions). The majority of therapists worked in private practice (n = 476; 74.7%) or hospital settings (n = 102; 16.0%). Respondents reported that approximately half of their caseload (M = 52.4%, SD = 25.5%) involved treating clients with anxiety disorders, and 61.1% (n = 389) advertised themselves to clients as specialists in the treatment of one or more anxiety disorders. Participants indicated that the following theoretical orientations guided their work (some participants selected multiple orientations): cognitive (n = 507; 79.6%), behavioral (n = 414; 65.0%), family/systems (n = 217; 34.1%), psychodynamic (n = 206; 32.3%), experiential/humanistic (n = 156; 24.5%), and "other" (n = 273; 42.9%).

2.1.2. Measures

Therapist Beliefs about Exposure Scale (TBES). Based on a comprehensive review of literature on therapist reservations about exposure therapy, the authors developed an initial pool of 23 items assessing a variety of negative Therapist Beliefs about Exposure therapy, including perceptions that it is intolerable, aversive, unethical, unacceptable, harmful, traumatizing, and inhumane. Respondents indicated their agreement with each item on a 5-point scale ranging from 0 ("disagree strongly") to 4 ("agree strongly").

Anxiety Sensitivity Index-3 (ASI-3). The 18-item ASI-3 (Taylor et al., 2007) measures the fear of anxiety-related body sensations based on beliefs about their harmful consequences and has three six-item subscales assessing physical concerns (e.g., "It scares me when my heart beats rapidly"), social concerns (e.g., "It scares me when I blush in front of other people"), and cognitive concerns (e.g., "When my thoughts seem to speed up, I worry that I might be going crazy"). ASI-3 total and subscale scores have been shown to possess good internal consistency, as well as excellent convergent, discriminant and criterion-related validity (Taylor et al., 2007). Internal consistency (α) for each ASI-3 scale was adequate in the present study (total score = .90; physical concerns = .83; social concerns = .77; cognitive concerns = .87).

Case vignettes. Four case vignettes depicting the use of exposure therapy with anxious clients were constructed for the present

study. Each vignette presented a hypothetical client's diagnosis and primary anxiety symptoms followed by a therapist's in-session use of a difficult exposure task. The OCD vignette depicted exposure to eating a sandwich placed on a toilet seat for a client with contamination fear. The social phobia vignette involved exposure to playing a piano poorly and loudly in a crowded hospital lobby. In the PTSD vignette, a client who was raped at gunpoint repeatedly described the details of the assault to her therapist. Finally, the panic disorder vignette described an overweight but medically healthy client afraid of experiencing a heart attack conducting prolonged exposure to walking up and down a stairwell. A copy of the case vignettes is available from the first author.

The vignettes were presented in random order. Following each vignette, participants answered seven questions assessing negative beliefs about the use of exposure depicted in the vignette. The following concerns were assessed: (a) client difficulty tolerating the exposure task, (b) ethicality of the exposure task, (c) therapist discomfort, (d) negative effects on the therapeutic relationship, (e) risk of harming the client, (f) degree to which the task is necessary for an optimal outcome, and (g) personal willingness to provide the depicted exposure. Participants rated their agreement with each item on a 5-point scale ranging from 0 ("disagree strongly") to 4 ("agree strongly"). Total scores range from 0 to 28; higher scores represent more negative reactions to the case vignettes. Because some survey respondents were randomized to complete a different set of questionnaires following completion of the TBES as part of a different study, a subset of the present sample (range in *ns* = 212–223) completed the case vignettes. Internal consistency (α) was excellent for each vignette (range = .93–.95).

2.1.3. Procedure

Email invitations were sent to numerous therapist directories and electronic mailing lists. A follow-up email solicitation was posted on each directory and electronic mailing list approximately two weeks after the initial invitation. Participants were given the option of providing their email address to be contacted for a follow-up study in order to permit assessment of the test–retest reliability of the TBES (see Study 2). All studies reported in this article were approved by the University of Wyoming institutional review board.

2.2. Results

2.2.1. Psychometric properties and factor structure of the TBES

Item-level psychometric analyses were conducted to eliminate items with corrected item-total correlations and/or inter-item correlations below .30 (Nunnally & Bernstein, 1994). All TBES items demonstrated a corrected item-total correlation above .30. Two items yielded mean inter-item correlations less than .30 and were deleted from the scale. The remaining 21 TBES items demonstrated adequate corrected item-total correlations (M = .68; range = .53–.81) and mean inter-item correlations (M = .44; range = .35–.52).

A principal components analysis (PCA) was conducted to determine the factor structure of the 21-item TBES. PCA was used for purposes of data reduction (Floyd & Widaman, 1995) because we had no a priori hypotheses regarding the latent structure of negative therapist beliefs about exposure therapy. The first four eigenvalues were 10.9, 1.1, 1.0, and 0.90. Parallel analysis (Longman, Cota, Holden, & Fekken, 1989) and examination of the screen plot indicated a clear single-factor solution that accounted for 51.7% of the TBES item variance. Table 1 presents descriptive statistics for each TBES item as well as communalities and factor loadings for the single-factor solution. All items had salient ($\geq$.40) loadings on the single factor (M = .71; range = .57–.84), and the magnitude of the communalities suggests that the single factor accounted for a moderately large portion of the variance in most items.

The mean TBES total score was 34.0 (SD = 17.5; range = 0–84). Internal consistency of the final 21-item version of the TBES (see Appendix A) was excellent (α = .95). A Kolmogorov–Smirnov test indicated that the distribution of TBES scores was not significantly different from a normal distribution, $z(637) = 1.03$, $p = .24$.

2.2.2. Concurrent validity of the TBES

TBES scores were significantly higher among female therapists (M = 36.5, SD = 17.8) than male therapists (M = 28.7, SD = 15.7), $t(635) = 5.37$, $p < .001$, $d = 0.45$. Age was significantly correlated with TBES scores ($r = .34$, $p < .001$) such that older therapists reported more negative beliefs about exposure. Therapists with a Ph.D. obtained significantly lower TBES scores (M = 24.8, SD = 16.7) than therapists earning a master's degree (M = 40.0, SD = 15.2), $t(533) = 10.94$, $p < .001$, $d = 0.96$. TBES scores were significantly lower ($p < .001$) among clinical psychologists (M = 24.6, SD = 16.1) than counseling psychologists (M = 37.8, SD = 15.3), social workers (M = 39.9, SD = 16.7), counselors (M = 40.8, SD = 12.2), marriage and family therapists (M = 44.0, SD = 14.6), and pastoral counselors (M = 44.2, SD = 10.4). Among clinical psychologists, Ph.D. therapists (M = 21.4, SD = 15.2) obtained significantly lower TBES scores than Psy.D. therapists (M = 33.1, SD = 15.36), $t(207) = 4.14$, $p < .001$, $d = 0.77$. Self-described anxiety specialists evidenced lower TBES scores (M = 31.3, SD = 17.9) than non-specialists (M = 38.4, SD = 16.1), $t(635) = 5.10$, $p < .001$, $d = 0.41$.

Correlations between TBES scores and ASI-3 scales were small in magnitude and ranged from $r = .03$ ($p = .48$) for the social concerns subscale to $r = .17$ ($p < .001$) for the physical concerns subscale. TBES scores demonstrated stronger associations with negative reactions to the four case vignettes. Correlations between TBES scores and total scores for each case vignette were as follows: OCD vignette = .56 ($p < .001$), social phobia vignette = .60 ($p < .001$), panic disorder vignette = .68 ($p < .001$), and PTSD vignette = .70 ($p < .001$).

2.3. Discussion

The TBES was developed to permit reliable and valid assessment of therapists' negative beliefs about exposure therapy for anxiety disorders. After removal of two items, the final 21-item TBES demonstrated adequate item-level psychometric properties, excellent internal consistency, a clear single-factor structure, and a normal distribution in a large and diverse sample of therapists. Lower TBES scores were significantly associated with younger age, male gender, Ph.D.-level education, affiliation with clinical psychology, and self-described anxiety specialist status. Higher TBES scores evidenced a small but significant correlation with the ASI-3 physical concerns subscale and were strongly associated with negative reactions to the depiction of exposure therapy in the context of four anxiety disorder case vignettes. Overall, findings from Study 1 support the strong psychometric properties of the TBES. Additional research is needed to determine the measure's test–retest reliability. Significant correlations between TBES scores and negative responses to the case vignettes provide initial support for the scale's construct validity. However, the association between TBES scores and the case vignettes may have been inflated due to the conceptual similarity between the constructs assessed by these measures. Research on the association between TBES scores and clinical decision-making in an exposure therapy context would provide a more stringent test of the scale's construct validity. Accordingly, a second study was conducted to examine the test–retest reliability and construct validity of the TBES.

Table 1
The Therapist Beliefs about Exposure Scale (TBES): means, standard deviations, factor loadings, and communalities for the single-factor solution.

Item	*M*	*SD*	Loading	h^2
1. Most clients have difficulty tolerating the distress exposure therapy evokes	2.25	1.21	.65	.43
2. Exposure therapy addresses the superficial symptoms of an anxiety disorder but does not target their root cause	1.90	1.44	.76	.58
3. Exposure therapy works poorly for complex cases, such as when the client has multiple diagnoses	2.08	1.37	.81	.65
4. Compared to other psychotherapies, exposure therapy leads to higher dropout rates	1.97	1.17	.74	.55
5. Conducting exposure therapy sessions outside the office increases the risk of an unethical dual relationship with the client	1.50	1.20	.65	.43
6. Exposure therapy is difficult to tailor to the needs of individual clients	1.12	1.05	.72	.52
7. Compared to other psychotherapies, exposure therapy is associated with a less strong therapeutic relationship	1.18	1.08	.72	.52
8. Asking the client to discuss traumatic memories in exposure therapy may retraumatize the client	1.88	1.30	.73	.53
9. It is unethical for therapists to purposely evoke distress in their clients	1.01	1.05	.57	.32
10. Clients are at risk of decompensating (i.e., losing mental and/or behavioral control) during highly anxiety-provoking exposure therapy sessions	2.08	1.24	.75	.57
11. Conducting exposure therapy sessions outside the office endangers the client's confidentiality	1.85	1.12	.57	.33
12. Arousal reduction strategies, such as relaxation or controlled breathing, are often necessary for clients to tolerate the distress exposure therapy evokes	2.71	1.28	.60	.36
13. Compared to other psychotherapies, exposure therapy places clients at a greater risk of harm	1.37	1.20	.84	.71
14. Most clients perceive exposure therapy to be unacceptably aversive	1.57	1.09	.82	.68
15. Exposure therapy often causes clients' anxiety symptoms to worsen	1.53	1.17	.78	.60
16. Asking the client to discuss traumatic memories in exposure therapy may vicariously traumatize the therapist	1.77	1.20	.56	.31
17. Clients may experience physical harm caused by their own anxiety (e.g., loss of consciousness) during highly anxiety-provoking exposure therapy sessions	1.35	1.09	.77	.60
18. Having clients conduct exposures in their imagination is sufficient; facing feared stimuli in the real world is rarely necessary	1.38	1.16	.66	.43
19. Exposure therapy is inhumane	0.85	1.10	.75	.56
20. Most clients refuse to participate in exposure therapy	1.32	1.00	.76	.58
21. Compared to other psychotherapies, exposure therapy increases the risk that the therapist will be sued for malpractice	1.37	0.97	.79	.62

3. Study 2: test–retest reliability and predictive validity of the Therapist Beliefs about Exposure Scale

3.1. Methods

3.1.1. Participants and procedure

From Study 1, 264 therapists provided consent and contact information to complete a follow-up study. Approximately six months following completion of Study 1, each consenting therapist was sent an email invitation to participate in an additional web-based study. A six-month test–retest interval was chosen based on the assumption that this time period was sufficient to examine the longer-term stability of therapist reservations about exposure therapy without risking higher attrition rates associated with a lengthier follow-up interval. Complete responses were obtained from 113 participants (42.8% response rate). The mean age of this sample was 34.1 years ($SD = 12.5$) and participants were predominantly women ($n = 74$; 65.5%) and Caucasian ($n = 110$; 97.3%). Most therapists had earned a master's degree ($n = 49$; 43.4%) or Ph.D. ($n = 47$; 41.6%). The breakdown of membership in mental health professions, endorsement of different theoretical orientations, work settings, anxiety-focused caseload, and anxiety specialist status was highly similar to that described in Study 1.

Participants first completed the TBES. Next, participants were presented with a brief description of exposure therapy and were asked to indicate whether or not they provide exposure therapy to clients with anxiety disorders. Therapists who did not provide exposure ($n = 51$; 45.1%) were excluded from further participation. Participants who reported providing exposure therapy ($n = 62$; 54.9%) completed an additional series of questions in response to a hypothetical case vignette (described below).

3.1.2. Measures

Therapist Beliefs about Exposure Scale (TBES). The original pool of 23 TBES items was administered. Following deletion of two items with problematic psychometric properties, total scores on the final 21-item TBES were calculated by summing responses to each item.

Exposure therapy case vignette. A case vignette was constructed in which participants were presented with a series of decisions regarding the delivery of exposure therapy to a hypothetical client with OCD. Therapists were instructed, "Imagine that you are conducting the FIRST SESSION of exposure and response prevention with a woman who has been diagnosed with obsessive-compulsive disorder. She experiences frequent, distressing obsessions of being contaminated by coming into contact with objects or surfaces that many other people have touched. She fears contracting a serious illness as a result." First, participants selected an exposure item from a nine-item hierarchy. Each hierarchy item was assigned a rating by the hypothetical client on a 100-point subjective units of distress scale (SUDS) ranging from 20 ("hold someone else's pen") to 100 ("place hands on the base of a toilet plunger)"; consecutive hierarchy items were separated by 10 SUDS points. Next, therapists indicated their likelihood of engaging in various actions at four time points during the therapy session: (a) immediately prior to beginning the exposure, (b) 10 min into the exposure, (c) 25 min into the exposure, and (d) 35 min into the exposure.

Immediately prior to beginning the exposure, the hypothetical client expressed reservations about the task and stated, "This seems difficult. Do I really have to do this?" 10 min into the exposure session, the client's breathing had noticeably quickened, the client provided a SUDS rating of 60, and stated, "This is getting really hard. I swear germs are getting on my hands. Do I have to keep going?" At 25 min, the client was breathing rapidly and noticeably shaking and sweating, reported a SUDS rating of 85, and said, "This is awful. I just know I'm going to get sick. I'm feeling lightheaded and I don't know if I should keep going." Finally, 35 min into the exposure task, the client's SUDS had decreased to 55, the client's breathing had slowed and sweating and shakiness had disappeared, and the client stated, "This is getting easier. Is it okay if I stop now?"

At each time point, therapists rated their likelihood of engaging in several actions on a 5-point scale ranging from 0 ("very unlikely") to 4 ("very likely"). The actions, presented in random order at each time point, included: (a) "Instruct the client to use arousal reduction techniques (e.g., diaphragmatic breathing, muscle relaxation)," (b) "Allow the client to select an easier item," (c) "Remind the client of the treatment rationale and benefits of exposure," (d) "Encourage the client to contact the exposure item," and (e) "Reassure the client that she will not get sick from the object." At 10, 25, and 35 min, the option of selecting an easier exposure item was replaced with the option of terminating the exposure task. Similarly, at the 10,

25, and 35 min time points, participants rated their likelihood of "Increas(ing) the intensity of the exposure by making the client come into more contact with the object." Lastly, at 10, 25, and 35 min participants rated their likelihood, on an identical 5-point scale, of granting client requests to only touch the object with her fingertips, use hand sanitizer, and wipe hands on her pants. A copy of the exposure therapy case vignette is available from the first author.

The range of therapist actions at each time point was intended to assess both confident (e.g., "Increase the intensity of the exposure by making the client come into more contact with the object") and cautious (e.g., "Allow the client to terminate the exposure") methods of delivering exposure therapy hypothesized to reflect the influence of therapists' negative beliefs about exposure. For purposes of clarity and parsimony, responses were aggregated across time points in order to form reliable scales depicting particular styles of exposure therapy delivery. The "Distress Reduction" scale (12 items; $\alpha = .90$) summed responses to the following therapist actions across all time points: (a) use of arousal reduction strategies, (b) reassurance of safety, (c) selecting an easier exposure item, and (d) terminating the exposure. The "Intense Delivery" scale (11 items; $\alpha = .84$) summed the following therapist actions across all time points: (a) encouraging continued contact with the object, (b) reiterating the treatment rationale and benefits of exposure, and (c) increasing intensity by increasing contact with the object. Finally, the "Safety Behavior Acquiescence" scale (9 items; $\alpha = .93$) summed responses across the last three time points denoting acquiescence to client requests to touch the exposure item only with fingertips, use hand sanitizer, and wipe hands on pants. Fig. 1 presents the time points and variables assessed throughout the exposure therapy case vignette.

3.2. Results

3.2.1. Psychometric properties of the TBES

The TBES demonstrated excellent internal consistency ($\alpha = .96$). A Kolmogorov–Smirnov test indicated that the distribution of TBES scores was not significantly different from a normal distribution, $z(113) = 0.89$, $p = .40$. Each TBES item demonstrated an acceptable corrected item-total correlation ($M = .74$; range = .48 to .84) and mean inter-item correlation ($M = .51$; range = .34 to .58).

The stability of TBES scores over the six-month test–retest interval was also examined. Among the 113 therapists who participated in Study 1 and Study 2, the correlation between TBES scores at each assessment was .89 ($p < .001$). TBES total scores at six-month follow-up ($M = 32.8$, $SD = 18.9$) did not differ significantly from scores at the original assessment ($M = 32.6$, $SD = 19.7$), paired samples $t(112) = -0.30$, $p = .77$.

3.2.2. Associations between the TBES and exposure therapy case vignette

The construct validity of the TBES was tested by examining associations between TBES scores and clinical decisions made in the exposure-based treatment of a hypothetical client with OCD. We tested the hypotheses that higher TBES scores would be significantly associated with (a) selection of a lower hierarchy item, (b) higher scores on the Distress Reduction scale, (c) higher scores on the Safety Behavior Acquiescence scale, and (d) lower scores on the Intensive Delivery scale. We first examined the distribution of the hierarchy item variable which demonstrated positive skew due to many participants ($n = 31$; 50%) choosing the lowest item (holding a pen). Responses to this variable were dichotomized so that scores denoted either choosing the lowest hierarchy item (coded as "1") or any higher item (coded as "2"). As hypothesized, an independent samples t-test revealed that therapists who selected the lowest hierarchy item ($n = 31$; 50.0%) had significantly higher TBES scores ($M = 28.6$, $SD = 15.6$) than therapists selecting a higher hierarchy item ($M = 17.5$, $SD = 13.8$), $t(60) = 2.97$, $p = .004$, $d = 0.75$.

As hypothesized, TBES scores were significantly, positively correlated with scores on the Distress Reduction scale ($r = .75$, $p < .001$) and Safety Behavior Acquiescence scale ($r = .52$, $p < .001$). Also consistent with prediction, TBES scores demonstrated a significant, negative correlation with scores on the Intensive Delivery scale ($r = -.36$, $p = .005$). Scores on the Distress Reduction and Safety Behavior Acquiescence scales were positively associated ($r = .64$, $p < .001$). In contrast, Intensive Delivery scores were negatively correlated with Distress Reduction scores ($r = -.26$, $p = .05$) and Safety Behavior Acquiescence scores ($r = -.36$, $p = .004$).

3.3. Discussion

The TBES was re-administered to a subset of 113 participants from Study 1. Similar to Study 1, the 21-item TBES demonstrated adequate item-level psychometric properties, excellent internal consistency, and a normal distribution. The six-month test–retest reliability of the TBES was exceptionally high ($r = .89$). Taken together, findings from Studies 1 and 2 demonstrate that the TBES possesses excellent psychometric properties. Further, negative beliefs about exposure therapy appear highly stable over time.

Findings from Study 2 provide additional evidence in support of the TBES's construct validity. TBES scores evidenced robust associations with clinical decisions made in the context of a hypothetical exposure therapy case vignette. Among 62 exposure therapists, higher TBES scores were strongly associated with selection of a less anxiety-evoking hierarchy item, more frequent use of strategies to reduce client distress during the exposure task (e.g., selecting an easier exposure item), and greater acquiescence to client requests to engage in safety behaviors (e.g., using hand sanitizer). The significant, positive association between Safety Behavior Acquiescence and actions intended to reduce distress suggests that these therapist behaviors reflect a cautious delivery style evident among therapists with higher negative beliefs about exposure therapy. Conversely, actions indicative of the intensive, confident delivery of exposure (e.g., encouraging continued contact with the exposure stimulus) were associated with fewer negative beliefs about this treatment.

Findings from Studies 1 and 2 indicate that the TBES is a reliable and valid measure of therapist reservations about exposure therapy. TBES scores were robustly associated with negative reactions to depictions of exposure therapy as well as the cautious delivery of exposure to a hypothetical client with OCD. These findings implicate negative beliefs about exposure therapy as a potentially important barrier to the competent delivery of this treatment. Accordingly, it may be important to reduce therapist reservations about exposure in order to improve its dissemination. This assertion raises the question: "To what extent are negative therapist beliefs about exposure therapy modifiable?" Understanding the answer to this question may be useful in informing future efforts to train therapists to provide exposure therapy in an optimally effective manner by correcting mistaken perceptions about this treatment. Study 3 was conducted to address this issue.

4. Study 3: effects of a training workshop on therapists' beliefs about exposure therapy

4.1. Methods

4.1.1. Participants and procedure

Participants were therapists ($N = 162$) attending a day-long training workshop on exposure therapy for anxiety disorders presented by one of two study authors (BJD and PBM). Workshops

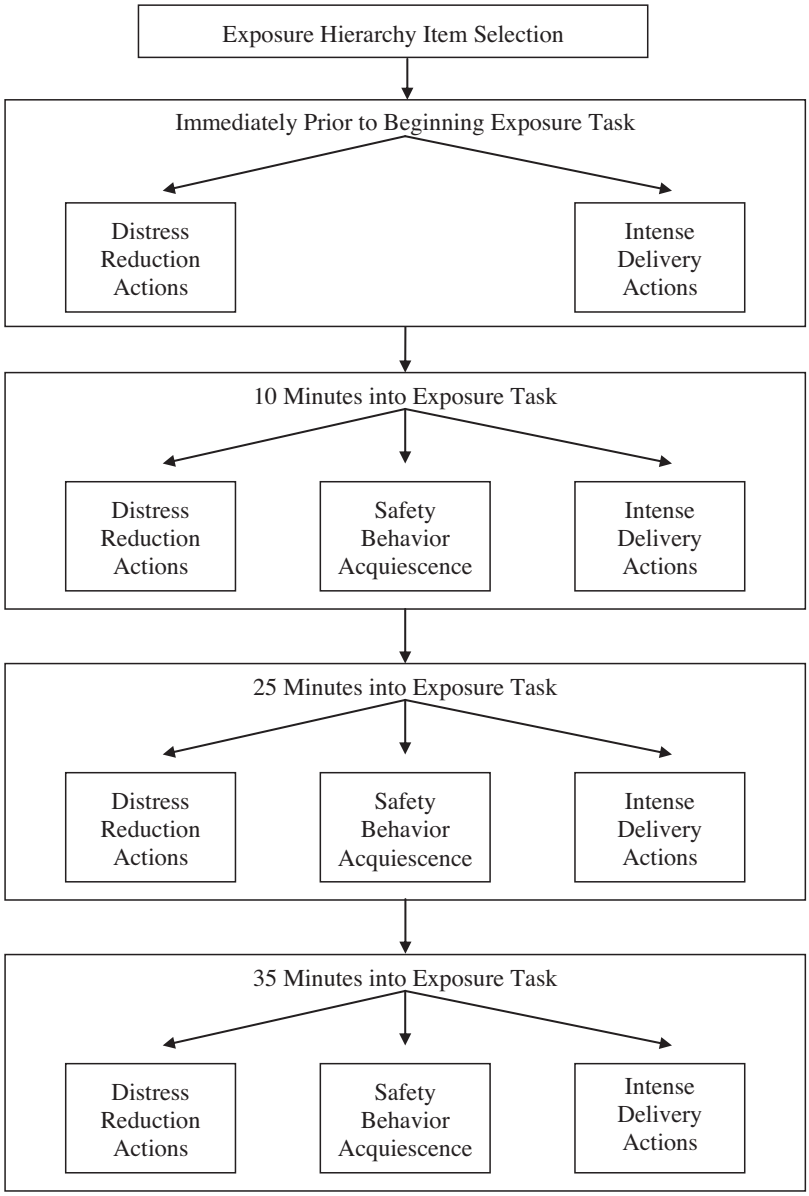

Fig. 1. Exposure therapy case vignette: time points and variables assessed.

were sponsored by a non-profit organization specializing in continuing education seminars for mental health professionals. The mean sample age was 51.2 years ($SD = 13.0$) and most participants were women ($n = 123$; 75.9%). A minority of therapists reported having provided exposure therapy to a client with an anxiety disorder during the past year ($n = 48$; 29.6%). Although additional demographic data were not obtained from this sample, trainers reported that most attendees were master's-level providers in the fields of social work or counseling and had limited experience and training in exposure therapy for anxiety disorders.

Participants attended one of numerous single-day workshops of 7 h duration during which didactic information was presented on the nature and exposure-based treatment of anxiety disorders. Workshops were independently prepared and presented by the two trainers. Attendees completed the TBES at the beginning and end of the workshop. Although both presenters briefly addressed therapist reservations about exposure during discussions of designing and implementing exposure tasks, modifying negative beliefs about exposure was not a primary focus of either presenter and accounted for less than 30 min duration in each workshop.

4.2. Results

4.2.1. Psychometric properties of the TBES

The TBES demonstrated excellent internal consistency at the pre-workshop ($\alpha = .90$) and post-workshop assessments ($\alpha = .91$). All TBES items demonstrated a corrected item-total correlation and mean inter-item correlation above the minimum of .30 recommended by Nunnally and Bernstein (1994) at each assessment. Kolmogorov–Smirnov tests indicated that the distribution of TBES scores was not significantly different from a normal distribution at the pre-workshop assessment, $z(162) = 1.05$, $p = .22$, and post-workshop assessment, $z(162) = 1.18$, $p = .12$.

4.2.2. Change in TBES scores following an exposure therapy training workshop

A paired samples t-test was used to test the hypothesis that TBES scores would decrease from pre-workshop to post-workshop assessments. As predicted, TBES scores decreased from an average of 33.1 ($SD = 11.1$) prior to the workshop to 17.3 ($SD = 9.8$) following the workshop, $t(162) = 20.02$, $p < .001$, $d = 1.50$. A series of paired

samples *t*-tests revealed that scores on all 21 TBES items were significantly lower (all *p*s < .001) following the workshop.

Follow-up analyses explored change in TBES scores from pre-to-post workshop as a function of presenter and therapist use of exposure therapy in the past year. A 2 (time: pre vs. post workshop) × 2 (presenter: BJD vs. PBM) repeated measures ANOVA yielded a non-significant interaction term, $F(1, 160) = 0.01$, $p = .94$, $\eta_p^2 = .00$, indicating essentially identical change in TBES scores following the workshops of each presenter. An additional 2 (time: pre vs. post training) × 2 (use of exposure therapy in past year: no vs. yes) produced a significant interaction, $F(1, 160) = 15.31$, $p < .001$, $\eta_p^2 = .09$. Follow-up simple effects tests revealed that exposure therapists reported significantly less change in TBES scores following the workshop ($M = 11.2$, $SD = 9.6$) than non-exposure-using therapists ($M = 17.7$, $SD = 9.6$), $t(160) = 3.91$, $p < .001$, $d = 0.67$. Mean pre-workshop TBES scores were significantly higher among non-exposure-using therapists ($M = 35.4$, $SD = 9.0$) than exposure therapists ($M = 27.8$, $SD = 13.7$), $t(160) = 4.17$, $p < .001$, $d = 0.72$. At the post-workshop assessment, this significant difference in TBES scores was no longer apparent, $t(160) = 0.67$, $p = .51$, $d = 0.11$. Mean TBES scores following the workshop were 17.6 ($SD = 9.56$) for non-exposure-using therapists and 16.5 ($SD = 10.5$) for exposure therapists.

4.3. Discussion

Results of this study provide further evidence in support of the excellent psychometric properties of the TBES and suggest that therapist reservations about exposure therapy can be substantially modified by didactic training. In a large sample of community practitioners, negative beliefs about exposure therapy evidenced large reductions following a day-long workshop on the theory and practice of exposure therapy. TBES scores decreased by approximately 50% following workshops that did not specifically emphasize the modification of therapist reservations about exposure. Larger reductions in TBES scores were evident among therapists who did not use exposure in the past year relative to those who did. Because this study did not employ an experimental design, it was not possible to rule out the influence of demand characteristics on reductions in TBES scores following the workshop. Moreover, the durability of reductions in negative beliefs about exposure, as well as their association with actual therapist behavior, were not assessed in this study.

5. General discussion

Negative beliefs about exposure therapy have been implicated as a barrier to the utilization and optimal delivery of this treatment (Abramowitz et al., 2010). However, the hypothesized relationship between therapists' exposure-related beliefs and behavior is largely speculative given the historical absence of a reliable and valid measure of therapist reservations about exposure. To facilitate empirical research in this area, the present study examined the psychometric properties and construct validity of a novel measure of therapists' negative beliefs about exposure therapy. The 21-item TBES was administered to a large and diverse sample of community therapists and evidenced good reliability and validity in three studies. The TBES showed a clear single-factor structure, adequate item-level psychometric characteristics, excellent internal consistency, and exceptionally high six-month test–retest reliability ($\alpha = .89$). TBES scores were significantly associated with therapist characteristics, attitudes toward depictions of exposure therapy, and delivery of an exposure therapy session to a hypothetical client with OCD. Negative attitudes toward exposure improved markedly following a day-long didactic workshop. Compared to descriptive statistics obtained for the TBES in Study 1, attendees scored at the TBES mean prior to the workshop but a full standard deviation lower following the workshop. Overall, the present findings support the utility of the TBES and highlight the importance of therapist reservations about exposure therapy as a barrier to the successful dissemination of this treatment.

TBES scores were associated with numerous therapist characteristics. Significantly fewer reservations about exposure were evident among men, younger therapists, and self-described anxiety specialists. Ph.D-educated clinical psychologists evidenced substantially lower TBES scores than clinicians in other mental health professions. This finding may reflect training differences in evidence-based practices across therapy mental health disciplines (Weissman et al., 2006). The observation that women scored higher on the TBES than men is consistent with previous research demonstrating that women perceive exposure therapy as more stressful than men (Devilly & Huther, 2007) and are less likely than men to use exposure therapy (Sprang, Craig, & Clark, 2008; van Minnen et al., 2010). It is possible that this gender difference in attitudes toward exposure is influenced by women's higher levels of empathic concern (Davis, 1980), which has been shown to predict the cautious delivery of exposure therapy (Farrell et al., in press). TBES scores also demonstrated a small but significant correlation with anxiety sensitivity specific to physical sensations. Harned, Dimeff, Woodcock, and Contreras (in press) found that higher anxiety sensitivity predicted less clinical proficiency in the delivery of exposure therapy (e.g., premature termination of exposure tasks, reassuring clients of safety). Although traditionally conceptualized as a client characteristic suggestive of anxiety-related psychopathology (Olatunji & Wolitzky-Taylor, 2009), anxiety sensitivity may also be an important therapist characteristic associated with negative attitudes toward exposure as well as its suboptimal delivery.

Negative beliefs about exposure therapy were strongly associated with negative reactions to vignettes depicting the delivery of intensive exposure tasks to clients with anxiety disorders. Clinicians with higher TBES scores rated the vignette exposures as especially intolerable for the client and therapist, harmful, unnecessary, unethical, likely to interfere with the therapeutic relationship, and beyond what they would be willing to provide to their own clients. Findings from Study 2 further suggest that beliefs about exposure influence the manner in which self-described exposure therapists deliver this treatment. In the context of a hypothetical therapy session for a client with OCD, clinicians with lower TBES scores delivered the exposure task in a more intense manner (e.g., encouraging increased contact with the exposure stimulus). Conversely, therapists with higher TBES scores selected a less anxiety-evoking hierarchy item, engaged in more frequent attempts to reduce the client's distress, and were more likely to grant client requests to engage in safety behaviors. These cautious methods of delivering exposure may be conceptualized as therapist safety behaviors (Deacon & Farrell, 2013; Deacon et al., 2013) and run the risk of producing poor client outcomes by failing to optimize inhibitory learning (Craske et al., 2008). Taken together with previous research (Becker et al., 2004; Deacon et al., 2013; Farrell et al., in press; Harned et al., in press; van Minnen et al., 2010), the present findings suggest that negative beliefs about exposure therapy pose a significant barrier to its utilization and cause therapists to deliver this treatment in an unnecessarily cautious and suboptimal manner.

On a positive note, findings from Study 3 indicate that negative beliefs about exposure can be substantially reduced through didactic training. Following a 7-h workshop on the theory and practice of exposure therapy, attendees' TBES scores decreased by nearly 50%. Changes in negative beliefs about exposure were especially pronounced among therapists who did not use this

treatment with their anxious clients. The present results are consistent with those of Harned, Dimeff, Woodcock, and Skutch (2011) in demonstrating that didactic training improves therapists' attitudes toward exposure therapy. However, demand characteristics may have artificially lowered participants' post-workshop TBES scores in the present study, and the stability and predictive validity of the observed decrease in negative beliefs about exposure following the workshop was not assessed. It is likely that didactic training alone, in the absence of supervised clinical experience in the delivery of exposure therapy, is insufficient to fully correct all pertinent negative beliefs about this treatment.

This study has several limitations. First, although our methodology precluded calculation of a precise response rate, it is likely that the vast majority of individuals contacted to participate in Study 1 declined. As a result, despite our large ($N = 637$) and diverse sample, the extent to which our findings are representative of the attitudes and behaviors of therapists in general is unclear. Second, therapists' treatment decisions in the context of hypothetical web-based case vignettes may not correspond to actual therapist behaviors with anxious clients. Fortunately, the similarity between the present results and experimental findings obtained by Farrell et al. (in press) suggests that the OCD case vignette used in Study 2 is a valid context for assessing the behavioral effects of negative beliefs about exposure therapy. Third, our use of a cross-sectional design cannot establish causal relationships between exposure-related therapist beliefs and behaviors. Experimental studies (e.g., Farrell et al., in press) are necessary to test the hypothesized causal role of negative beliefs about exposure in its suboptimal delivery. Fourth, demand characteristics and lack of a longer-term follow-up limit conclusions about the extent to which didactic training is sufficient to modify therapist reservations about exposure therapy.

In summary, this study supports the reliability and validity of the TBES, a novel measure of negative therapist beliefs about exposure therapy. The present findings suggest that therapist reservations about exposure: (a) load together onto a single general factor, (b) are highly stable over time, (c) are associated with therapist characteristics, particularly graduate degree and profession, (d) are related to the underutilization and suboptimal delivery of exposure, and (e) are modifiable with didactic training. In light of these results, future efforts to disseminate exposure therapy for anxiety disorders should directly address common therapist misconceptions about this treatment. Training in exposure therapy theory and technique alone may be insufficient to promote the competent delivery of this treatment. Inhibitory learning theory posits that the manner in which exposure therapy is delivered is of considerable importance (Craske et al., 2008), and negative beliefs about this treatment appear to impede its utilization and contribute to its unnecessarily cautious delivery. Future research might examine strategies for modifying reservations about conducting exposure therapy among trainees, as well as the extent to which negative beliefs about exposure contribute to attenuated client outcomes. The efficacy of exposure-based therapies for anxiety disorders varies substantially between practitioners (e.g., Huppert et al., 2001) and even among study sites in clinical trials (e.g., POTS Team, 2004), and future research using the TBES may help clarify the role of therapist reservations about exposure in predicting client responses to the most evidence-based psychological treatment for anxiety disorders.

Appendix A. Therapist Beliefs about Exposure Scale (TBES)

Instructions: Below are statements about exposure therapy for the treatment of anxiety disorders. Please indicate how strongly you agree or disagree with each statement.

	Disagree strongly	Disagree	Unsure	Agree	Agree strongly
1. Most clients have difficulty tolerating the distress exposure therapy evokes	0	1	2	3	4
2. Exposure therapy addresses the superficial symptoms of an anxiety disorder but does not target their root cause	0	1	2	3	4
3. Exposure therapy works poorly for complex cases, such as when the client has multiple diagnoses	0	1	2	3	4
4. Compared to other psychotherapies, exposure therapy leads to higher dropout rates	0	1	2	3	4
5. Conducting exposure therapy sessions outside the office increases the risk of an unethical dual relationship with the client	0	1	2	3	4
6. Exposure therapy is difficult to tailor to the needs of individual clients	0	1	2	3	4
7. Compared to other psychotherapies, exposure therapy is associated with a less strong therapeutic relationship	0	1	2	3	4
8. Asking the client to discuss traumatic memories in exposure therapy may retraumatize the client	0	1	2	3	4
9. It is unethical for therapists to purposely evoke distress in their clients	0	1	2	3	4
10. Clients are at risk of decompensating (i.e., losing mental and/or behavioral control) during highly anxiety-provoking exposure therapy sessions	0	1	2	3	4
11. Conducting exposure therapy sessions outside the office endangers the client's confidentiality	0	1	2	3	4
12. Arousal reduction strategies, such as relaxation or controlled breathing, are often necessary for clients to tolerate the distress exposure therapy evokes	0	1	2	3	4
13. Compared to other psychotherapies, exposure therapy places clients at a greater risk of harm	0	1	2	3	4
14. Most clients perceive exposure therapy to be unacceptably aversive	0	1	2	3	4
15. Exposure therapy often causes clients' anxiety symptoms to worsen	0	1	2	3	4
16. Asking the client to discuss traumatic memories in exposure therapy may vicariously traumatize the therapist	0	1	2	3	4
17. Clients may experience physical harm caused by their own anxiety (e.g., loss of consciousness) during highly anxiety-provoking exposure therapy sessions	0	1	2	3	4
18. Having clients conduct exposures in their imagination is sufficient; facing feared stimuli in the real world is rarely necessary	0	1	2	3	4
19. Exposure therapy is inhumane	0	1	2	3	4
20. Most clients refuse to participate in exposure therapy	0	1	2	3	4
21. Compared to other psychotherapies, exposure therapy increases the risk that the therapist will be sued for malpractice	0	1	2	3	4

References

Abramowitz, J. S., Deacon, B. J., & Whiteside, S. P. (2010). *Exposure therapy for anxiety: principles and practice*. New York: Guilford Press.

Becker, C. B., Zayfert, C., & Anderson, E. (2004). A survey of psychologists' attitudes towards and utilization of exposure therapy for PTSD. *Behaviour Research and Therapy*, *42*, 277–292.

Böhm, K., Förstner, U., Külz, A., & Voderholzer, U. (2008). Versorgungsrealität der zwangsstörungen: werden expositionsverfahren eingesetzt? *Verhaltenstherapie*, *18*, 18–24.

Cook, J. M., Schnurr, P. P., & Foa, E. B. (2004). Bridging the gap between posttraumatic stress disorder research and clinical practice: the example of exposure therapy. *Psychotherapy: Theory, Research, Practice, Training*, *41*, 374–387.

Craske, M. G., Kircanski, K., Zelikowsky, M., Mystkowski, J., Chowdhury, N., & Baker, A. (2008). Optimizing inhibitory learning during exposure therapy. *Behaviour Research and Therapy*, *46*, 5–27.

Davidson, J. R., Foa, E. B., Huppert, J. D., Keefe, F. J., Franklin, M. E., Compton, J. S., et al. (2004). Fluoxetine, comprehensive cognitive behavioral therapy, and placebo in generalized social phobia. *Archives of General Psychiatry*, *61*, 1005–1013.

Davis, M. H. (1980). A multidimensional approach to individual differences in empathy. *JSAS Catalog of Selected Documents in Psychology*, *10*, 85.

Deacon, B. J., & Abramowitz, J. S. (2004). Cognitive and behavioral treatments for anxiety disorders: a review of meta-analytic findings. *Journal of Clinical Psychology*, *60*, 429–441.

Deacon, B. J., & Farrell, N. R. (2013). Therapist barriers to the dissemination of exposure therapy. In: D. McKay, & E. Storch (Eds.), *Handbook of treating variants and complications in anxiety disorders* (pp. 363–373). New York: Springer Press.

Deacon, B. J., Lickel, J. J., Farrell, N. R., Kemp, J. J., & Hipol, L. J. (2013). Therapist perceptions and delivery of interoceptive exposure for panic disorder. *Journal of Anxiety Disorders*, *27*, 259–264.

Devilly, G. J., & Huther, A. (2007). Perceived distress and endorsement for cognitive- or exposure-based treatments following trauma. *Australian Psychologist*, *42*, 1–8.

Farrell, N. R., Deacon, B. D., Kemp, J. J., Dixon, L. D., & Sy, J. T. (2013). Do negative beliefs about exposure therapy cause its cautious delivery? An experimental investigation. *Journal of Anxiety Disorders*, http://dx.doi.org/10.1016/j.janxdis.2013.03.007 [in press]

Feeny, N., Hembree, E., & Zoellner, L. (2003). Myths regarding exposure therapy for PTSD. *Cognitive and Behavioral Practice*, *10*, 85–90.

Floyd, F. J., & Widaman, K. F. (1995). Factor analysis in the development and refinement of clinical assessment instruments. *Psychological Assessment*, *7*, 286–299.

Foa, E. B., Liebowitz, M. R., Kozak, M. J., Davies, S., Campeas, R., Franklin, M. E., et al. (2005). Randomized, placebo-controlled trial of exposure and ritual prevention, clomipramine, and their combination in the treatment of obsessive-compulsive disorder. *American Journal of Psychiatry*, *162*, 151–161.

Freiheit, S. R., Vye, C., Swan, R., & Cady, M. (2004). Cognitive-behavioral therapy for anxiety: is dissemination working? *The Behavior Therapist*, *27*, 25–32.

Gloster, A. T., Wittchen, H.-U., Einsle, F., Lang, T., Helbig-Lang, S., Fydrich, T., et al. (2011). Psychological treatment for panic disorder with agoraphobia: a randomized controlled trial to examine the role of therapist-guided exposure in situ in CBT. *Journal of Consulting and Clinical Psychology*, *79*, 406–420.

Gunter, R. W., & Whittal, M. L. (2010). Dissemination of cognitive-behavioral treatments for anxiety disorders: overcoming barriers and improving client access. *Clinical Psychology Review*, *30*, 194–202.

Harned, M. S., Dimeff, L. A., Woodcock, E. A., & Contreras, I. (2013). Predicting adoption of exposure therapy in a randomized controlled dissemination trial. *Journal of Anxiety Disorders*, http://dx.doi.org/10.1016/j.janxdis.2013.02.006 [in press]

Harned, M. S., Dimeff, L. A., Woodcock, E. A., & Skutch, J. M. (2011). Overcoming barriers to disseminating exposure therapies for anxiety disorders: a pilot randomized controlled trial of training methods. *Journal of Anxiety Disorders*, *25*, 155–163.

Hipol, L. J., & Deacon, B. J. (2013). Dissemination of evidence-based practices for anxiety disorders in Wyoming: a survey of practicing psychotherapists. *Behavior Modification*, *37*, 170–188.

Huppert, J. D., Bufka, L. F., Barlow, D. H., Gorman, J. M., Shear, M. K., & Woods, S. W. (2001). Therapists, therapist variables, and cognitive-behavioral therapy outcome in a multicenter trial for panic disorder. *Journal of Consulting and Clinical Psychology*, *69*, 747–755.

Kovacs, A. L. (1996). Reflections on the practice directorate's data base project. *Psychotherapy Bulletin*, *31*, 26–31.

Lohr, J. M., Lilienfeld, S. O., & Rosen, G. M. (2012). Anxiety and its treatment: promoting science-based practice. *Journal of Anxiety Disorders*, *26*, 719–727.

Longman, R. S., Cota, A. A., Holden, R. R., & Fekken, G. C. (1989). A regression equation for the parallel analysis criterion in principal components analysis: mean and 95th percentile eigenvalues. *Multivariate Behavioral Research*, *24*, 59–69.

McHugh, R. K., & Barlow, D. H. (2010). The dissemination and implementation of evidence-based psychological treatments. *American Psychologist*, *65*, 73–84.

Nunnally, J., & Bernstein, I. (1994). *Psychometric theory*. New York: McGraw-Hill.

Olatunji, B. O., Cisler, J., & Deacon, B. J. (2010). Efficacy of cognitive behavioral therapy for anxiety disorders: a review of meta-analytic findings. *Psychiatric Clinics of North America*, *33*, 557–577.

Olatunji, B. O., Deacon, B. J., & Abramowitz, J. S. (2009). The cruelest cure? Ethical issues in the implementation of exposure-based treatments. *Cognitive and Behavioral Practice*, *16*, 172–180.

Olatunji, B. O., & Wolitzky-Taylor, K. B. (2009). Anxiety sensitivity and the anxiety disorders: a meta-analytic review and synthesis. *Psychological Bulletin*, *135*, 974–999.

Ollendick, T. H., Ost, L.-G., Reuterskiöld, L., Costa, N., Cederlund, R., Sirbu, C., et al. (2009). One-session treatment of specific phobias in youth: a randomized clinical trial in the United States and Sweden. *Journal of Consulting and Clinical Psychology*, *77*, 504–516.

Pediatric OCD Treatment Study (POTS) Team. (2004). Cognitive-behavior therapy, sertraline, and their combination for children and adolescents with obsessive-compulsive disorder: the Pediatric OCD Treatment Study (POTS) randomized controlled trial. *Journal of the American Medical Association*, *292*, 1969–1976.

Rosqvist, J. (2005). *Exposure treatments for anxiety disorders: a practitioner's guide to concepts, methods, and evidence-based practice*. New York: Routledge.

Rothbaum, B. O., & Schwartz, A. C. (2002). Exposure therapy for posttraumatic stress disorder. *American Journal of Psychotherapy*, *56*, 59–75.

Schnurr, P. P., Friedman, M. J., Engel, C. C., Foa, E. B., Shea, M. T., Chow, B. K., et al. (2007). Cognitive behavioral therapy for posttraumatic stress disorder in women: a randomized controlled trial. *Journal of the American Medical Association*, *28*, 820–830.

Sprang, G., Craig, C., & Clark, J. (2008). Factors impacting trauma treatment practice patterns: the convergence/divergence of science and practice. *Journal of Anxiety Disorders*, *22*, 162–174.

Taylor, S., Zvolensky, M. J., Cox, B. J., Deacon, B., Heimberg, R. G., Ledley, D. R., et al. (2007). Robust dimensions of anxiety sensitivity: development and initial validation of the Anxiety Sensitivity Index-3. *Psychological Assessment*, *19*, 176–188.

van Minnen, A., Hendriks, L., & Olff, M. (2010). When do trauma experts choose exposure therapy for PTSD clients? A controlled study of therapist and client factors. *Behaviour Research and Therapy*, *48*, 312–320.

Weissman, M. M., Verdeli, H., Gameroff, M. J., Bledsoe, S. E., Betts, K., Mufson, L., et al. (2006). National survey of psychotherapy training in psychiatry, psychology, and social work. *Archives of General Psychiatry*, *63*, 925–934.

Young, A. S., Klap, R., Shoai, R., & Wells, K. B. (2008). Persistent depression and anxiety in the United States. *Psychiatric Services*, *59*, 1391–1398.

Zoellner, L. A., Feeny, N. C., Bittinger, J. N., Bedard-Gilligan, M. A., Slagle, D. M., Post, L. M., et al. (2011). Teaching trauma-focused exposure therapy for PTSD: critical clinical lessons for novice exposure therapists. *Psychological Trauma: Theory, Research, Practice, and Policy*, *3*, 300–308.