

The Struggle of Behavioral Therapists With Exposure: Self-Reported Practicability, Negative Beliefs, and Therapist Distress About Exposure-Based Interventions

Andre Pittig
Roxana Kotter
Jürgen Hoyer

Institute of Clinical Psychology and Psychotherapy, Technische Universität Dresden, Germany

Exposure-based interventions are a core ingredient of evidence-based cognitive-behavioral treatment (CBT) for anxiety disorders, posttraumatic stress disorder (PTSD), and obsessive-compulsive disorder (OCD). However, previous research has documented that exposure is rarely utilized in routine care, highlighting an ongoing lack of dissemination. The present study examined barriers for the dissemination of exposure from the perspective of behavioral psychotherapists working in outpatient routine care ($N = 684$). A postal survey assessed three categories of barriers: (a) *practicabil-*

ity of exposure-based intervention in an outpatient private practice setting, (b) *negative beliefs* about exposure, and (c) *therapist distress* related to the use of exposure. In addition, self-reported competence to conduct exposure for different anxiety disorders, PTSD, and OCD was assessed. High rates of agreement were found for single barriers within each of the three categories (e.g., unpredictable time management, risk of uncompensated absence of the patient, risk of decompensation of the patient, superficial effectiveness, or exposure being very strenuous for the therapist). Separately, average agreement to each category negatively correlated with self-reported utilization of exposure to a moderate degree ($-.35 \leq r \leq -.27$). In a multiple regression model, only average agreement to barriers of practicability and negative beliefs were significantly associated with utilization rates. Findings illustrate that a multilevel approach targeting individual, practical, and systemic barriers is necessary to optimize the dissemination of exposure-based interventions. Dissemination efforts may therefore benefit from incorporating strategies such as modifying negative beliefs, adaptive stress management for therapists, or increasing practicability of exposure-based interventions.

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Address correspondence to Dr. Andre Pittig who is now at the University of Würzburg, Department of Psychology I, Marcusstr. 9-11, 97070 Würzburg, Germany; e-mail: andre.pittig@uni-wuerzburg.de.

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ANXIETY DISORDERS, including panic disorder, agoraphobia, specific phobia, and social anxiety disorder, rank among the most frequent mental disorders (Jacobi et al., 2014; Kessler, Ruscio, Shear, & Wittchen, 2010). Combined with posttraumatic stress disorder (PTSD) and obsessive-compulsive

disorder (OCD), one in nine individuals is estimated to suffer from these disorders in any given year (11.6%; [Baxter, Scott, Vos, & Whiteford, 2013](#)). If not adequately treated, anxiety disorders tend to persist and are linked to increasing individual and societal burdens as well as aggravating psychopathology such as secondary depression ([Beesdo et al., 2007](#); [Gustavsson et al., 2011](#); [Kessler et al., 2010](#); [Wittchen et al., 2011](#)). Effective and timely treatment of anxiety and related disorders is thus a central target of mental health care.

For psychological treatments, comprehensive evidence demonstrated the effectiveness of cognitive-behavioral therapy (CBT). A large number of randomized clinical trials and subsequent meta-analyses yielded high effect sizes of CBT compared to no or placebo-controlled treatment (e.g., [Carpenter et al., 2018](#); [Hofmann & Smits, 2008](#); [Olatunji, Cisler, & Deacon, 2010](#); [Watts, Turnell, Kladnitski, Newby, & Andrews, 2015](#)). Similar effects have been reported in more naturalistic effectiveness studies ([Stewart & Chambless, 2009](#)) and for CBT in routine care (e.g., [Hoyer et al., 2017](#)). Thus, CBT is highly effective for the treatment of anxiety and related disorders.

Especially for anxiety disorders, recent evidence suggested a superiority of CBT compared to other active treatments such as psychodynamic treatments ([Tolin, 2010](#)). These findings suggest that CBT comprises distinct, specifically efficacious ingredients. One of the core active ingredient of CBT for anxiety disorders, PTSD, and OCD are exposure-based interventions ([Arch & Craske, 2009](#); [Craske, 1999](#); [Pittig et al., 2015](#); [Pittig, van den Berg, & Vervliet, 2016](#)). During these interventions, a patient is exposed to individually fear- and anxiety-relevant stimuli or situations in the absence of real danger. Exposure interventions aim to create new learning experiences to help the patient to manage his or her anxiety. Exposure can take place in various forms such as exposure in vivo (i.e., exposure to external stimuli or situations), imaginal exposure (i.e., exposure to mental imagery, thoughts, or memories), or interoceptive exposure (i.e., exposure to internal body sensations). Finally, some forms of behavioral testing may be conceptualized as exposure exercises. Exposure alone has demonstrated high effect sizes in the treatment of anxiety and panic ([Bakker, van Balkom, Spinhoven, & Blaauw, 1998](#); [Hoyer et al., 2009](#); [P. J. Norton & Price, 2007](#)), supporting the assumption that exposure is a core working ingredient in CBT for anxiety disorders. As a consequence, exposure-based interventions are part of the first-line treatments in most international guidelines for the treatment of anxiety disorders,

PTSD, and OCD (e.g., [Bandelow, Lichte, Rudolf, Wiltink, & Beutel, 2014](#); [Clark, 2011](#); [Katzman et al., 2014](#)). Following the call for evidence-based psychotherapy, exposure-based interventions should thus be an integral element of psychotherapeutic routine care for these disorders (see also [Richter, Pittig, Hollandt, & Lueken, 2017](#)).

In sharp contrast, previous research showed that exposure is rarely utilized in nonuniversity routine care. In the U.S., 87% of mental health professionals indicated that they use exposure for none or only some of their patients ([Cook, Biyanova, Elhai, Schnurr, & Coyne, 2010](#)). These findings were obtained from diverse professions and across all types of mental disorders, in which exposure may not be indicated. However, utilization rates were also low when exposure was an indicated treatment strategy (i.e., in the treatment of anxiety and related disorders). For psychotherapists, only 17% used exposure in the treatment of PTSD ([Becker, Zayfert, & Anderson, 2004](#)) and only 29.3% of patients with OCD indicated that they completed exposure-based exercises during treatment ([Böhm, Förstner, Külz, & Voderholzer, 2008](#)). Recently, we assessed self-reported use of exposure in the treatment of principal anxiety disorders in 684 behavioral psychotherapists in routine care ([Pittig & Hoyer, 2017](#)). Results demonstrated that therapists used exposure in less than half of their treatments focusing on an anxiety disorder (46.8%). Finally, even therapists who reported to provide CBT when treating anxiety disorders rarely utilized exposure-based interventions, and if exposure was utilized, it was oftentimes conducted in a non-evidence-based manner, e.g., applying dysfunctional arousal reduction or safety strategies or not planning sufficient time for an exercise ([Freiheit, Vye, Swan, & Cady, 2004](#); [Hipol & Deacon, 2013](#); [Roth, Siegl, Aufdermauer, & Reinecker, 2004](#); [Schubert, Siegl, & Reinecker, 2003](#)). In sum, these findings demonstrate an ongoing lack of dissemination of exposure-based interventions into routine care.

A variety of reasons and solutions have been suggested regarding the limited dissemination of exposure. In general, most barriers for the dissemination of evidence-based treatments also apply to exposure. For example, the lack of exposure dissemination may be impeded by beliefs that specific techniques are irrelevant as treatment success is solely driven by common factors, by a rejection of manualized treatments, or by beliefs that any combination of effective CBT techniques may work equally well (e.g., [Addis & Krasnow, 2000](#); [Gunter & Whittal, 2010](#)). Typically, solutions for the lack of dissemination of exposure have

focused on training therapists in routine care to conduct exposure. Indeed, more experience with exposure-based interventions during initial qualification is associated with more frequent self-reported utilization of exposure when later treating anxiety disorders in routine care (Broicher, Gerlach, & Neudeck, 2017; Pittig & Hoyer, 2017). In addition, specific exposure trainings for licensed therapists were found to increase self-reported competence to conduct exposure and actual utilization of the trained method (e.g., Sholomskas et al., 2005). However, studies also demonstrated that despite previous training, a substantial amount of therapists do not incorporate exposure into their practice in the long run (Becker et al., 2004). Indeed, exposure-based interventions were the least transferred interventions following a structured training in manualized CBT for social anxiety disorder (Hoyer et al., 2017). Thus, although training efforts are effective to some degree, they do not suffice to comprehensively disseminate the use of exposure-based interventions into routine care.

Dissemination research also turned to other barriers of exposure-based CBT (see Gunter & Whittal, 2010). For example, we have recently demonstrated that therapists in routine care rate distinct regulations in the German health care system as essential barriers for exposure (Pittig & Hoyer, 2017). Specifically, prominent systemic barriers were related to uncertainties about legal liability when conducting exposure outside one's office and a limited amount of insurance-granted sessions. In addition, therapists reported that exposure is linked to an unfavorable effort-compensation ratio due to a higher effort compared to other interventions but equal financial payoff. Whereas such systemic barriers are most likely highly dependent on the specific health care regulations, other barriers may be more universal across different health care systems. For example, there has been some discussion about the general practicability of exposure in routine care, for example, limited time for planning or prolonged sessions (Neudeck & Einsle, 2010). However, these practicability barriers have mostly been discussed theoretically and empirical evidence is scarce. Understanding these barriers may provide additional insights into the limited dissemination of exposure-based interventions under routine care requirements.

Another line of research has targeted individual barriers of therapists conducting exposure. Most prominently, negative beliefs about exposure have been identified as a significant dissemination barrier (see Olatunji, Deacon, & Abramowitz, 2009). To assess such negative beliefs, the *Therapist Beliefs About Exposure Scale* was developed (Deacon, Farrell, et al., 2013). In a sample of practicing

clinicians, prominent negative beliefs were, for example, that patients are at risk of decompensating and need arousal-reduction strategies. In addition, exposure was believed to only address superficial symptoms (Deacon, Farrell, et al., 2013). Similar beliefs about exposure being not safe or tolerable have been discussed for the treatment of PTSD (Cahill, Foa, Hembree, Marshall, & Nacash, 2006). Importantly, the individual extent of such negative beliefs has been linked to a suboptimal, overly cautious delivery of exposure-based interventions (Deacon, Farrell, et al., 2013; Deacon, Lickel, et al., 2013; Farrell, Deacon, Kemp, et al., 2013).

Besides negative beliefs, other individual barriers have received less attention, but may provide additional insights into the limited dissemination of exposure-based interventions. Recent studies provided first evidence that conducting exposure is not only strenuous for the patient, but also for the therapist. For example, therapists and patients showed high levels of physiological stress responses during exposure (Schumacher et al., 2014, 2015). In addition, a therapist's own anxiety or insecurity when conducting therapist-guided exposure may also impede the use of exposure in routine care (Schare & Wyatt, 2013). Again, empirical data on therapist distress related to the use of exposure are scarce. Moreover, past studies have rarely examined more than one category of dissemination barriers at the same time. This lack of a comprehensive investigation of dissemination barriers limits a comparison among different barriers and their distinct impact on the utilization of exposure.

To this end, the present study aimed to provide a comprehensive insight into the dissemination barriers of exposure-based interventions. A survey assessing self-reported utilization of exposure and various barriers that may hinder the use of exposure was developed and sent to behavioral psychotherapists working in routine care. Three categories of barriers were examined: (a) *practicability* issues when conducting exposure in an outpatient practice setting, (b) *negative beliefs* about exposure, and (c) *therapist distress* when conducting exposure. The main goal of the study was to identify distinct barriers within each category. Thus, average agreement to the single barriers within each category served as the main outcome. In addition, associations between average agreement to the categories with demographic data (i.e., sex, experience as therapist, exposure-related experience) were examined. Furthermore, self-reported competence to conduct exposure for different anxiety disorders, PTSD, and OCD was assessed. The present data are part of a larger study, in which the self-reported utilization of exposure-based interventions and

dissemination barriers related to health-care regulations were also assessed. These results were presented elsewhere due to the specificity of these barriers to the German health care system (see Pittig & Hoyer, 2017). In addition to reporting agreement to the different barriers, we used the utilization data of the study to examine the association between agreement to different categories of barriers and self-reported utilization of exposure.

Material and Methods

PARTICIPANTS

A survey was conducted in the regions of two national psychotherapy chambers in Germany (East-German chamber and North Rhine–Westphalian chamber; “chambers” being a legally mandatory institution in which licensed psychotherapists organize themselves and all their legal concerns). As exposure-based interventions are techniques of (cognitive) behavior therapy, inclusion criterion for participating in the survey was that the license to conduct psychotherapy was based on formal training in behavior therapy. For the survey, postal addresses of all eligible psychotherapists were identified from the databases of the local associations of health insurance professionals [Kassenärztliche Vereinigung], which contains contact data of all licensed health care professionals in an indicated area. From a total of 2,366 selected therapists, who received the postal survey, 684 (response rate 29.3%) returned the completed survey while 43 (1.8%) postal surveys were returned due to a wrong address. All answers were anonymous, but an individual code was indicated in case of a follow-up survey. Participants were reminded once by telephone call.

Participants were mostly female (79.2%) with a mean age of 46.44 years ($SD = 9.05$). Before advanced training to obtain a license for behavioral psychotherapy, 85.2% completed a university degree in psychology, 2.2% a medical degree, 9.4% pedagogical degree, and 3.2% other degrees (e.g., social work). In the present sample, 83.2% were licensed for behavioral psychotherapy in adults and 28.1% for behavioral psychotherapy in children and adolescents (i.e., 11.3% dual qualification). Almost all participants worked in an outpatient private practice with full reimbursement by the German health insurance system (97.5%); the typical form of outpatient psychotherapy in Germany. Mean professional experience as a psychotherapist was 12.00 years ($SD = 8.96$) and the mean current number of treatment sessions per week was 25.22 ($SD = 7.14$). Participants on average completed 56.18 training hours on the theoretical background or practical application of exposure-based interventions ($SD = 53.48$) and on average had already treated 57.66

cases with a focus on a principal anxiety disorder, PTSD, or OCD ($SD = 45.46$). Moreover, 26.7% rated themselves as being specialized for the treatment of anxiety disorders.

MEASURES

The present study was part of a dissemination project incorporated into a research consortium for the treatment of anxiety disorders (PROTECT-AD; Providing Tools for Effective Care and Treatment of Anxiety Disorders; see Heinig et al., 2017). For the study, a survey was constructed to assess the self-reported utilization of exposure-based interventions as well as utilization barriers in nonuniversity outpatient behavioral psychotherapy. In addition to demographic data (e.g., age, sex), occupation-related data (e.g., years of experience, therapy sessions per week, treated cases with focus on anxiety disorders) were assessed in the general part of the survey. Due to a lack of standardized assessment tools, most parts of the survey were newly constructed for the present study. As indicated in Pittig and Hoyer (2017), self-reported utilization was assessed by asking participants to indicate the percentage of recently treated cases (during the last 3 years) with a focus on panic disorder (PD), agoraphobia (AG), specific phobia (SP), social anxiety disorder (SAD), generalized anxiety disorder (GAD), obsessive-compulsive disorder (OCD), and/or posttraumatic stress disorder (PTSD), in which they used exposure-based interventions (including exposure in vivo, imaginal or interoceptive exposure, and brief exposure as behavioral testing intervention). As the main focus of the study aimed to assess distinct barriers of exposure utilization, a single item assessed utilization (for details see Pittig & Hoyer, 2017).

Self-reported barriers covered three content-related categories: (a) practicability of exposure-based intervention in an outpatient private practice setting, (b) negative beliefs about exposure, and (c) therapist distress when conducting exposure. For negative beliefs, the Therapist Beliefs about Exposure Scale (TBES; Deacon, Farrell, et al., 2013) was used. The TBES is a 21-item questionnaire assessing the agreement to various negative beliefs about exposure-based interventions (0 = *strongly disagree* to 4 = *strongly agree*). It shows good psychometric properties and a single-factor structure (Deacon, Farrell, et al., 2013). For the present study, the 21 items published by Deacon, Farrell, et al. (2013) were translated into German by a native German speaker and back-translated into English by a native English speaker. Inconsistencies between the original and the back-translated version were checked and the German translation revised after

thorough discussion (a copy of the translation can be found in the [supplemental material](#)).

For the assessment of barriers of practicability and therapist distress, no standardized questionnaires were found. Therefore, novel items for these two categories were developed based on theoretical considerations and a thorough literature research. Next, six independent experts rated the relevance of all constructed items on a 5-point Likert scale (from 1 = *very irrelevant* to 5 = *very relevant*) and the test efficiency of each item (*yes/no*). All experts were members of the German research consortium for the treatment of anxiety disorders (see Heinig et al., 2017). In addition, all items were piloted in a sample of 69 behavioral therapists. Participants were instructed that they will find a list of various statements and that each statement may represent a barrier preventing them from conducting an indicated exposure-based intervention for a patient with a principal anxiety disorder. Participants were asked to rate their agreement to each statement on the same 5-point Likert scale as used for the TBES. Items in the expert rating and the pilot study were accompanied by open-answer questions, for which participants were asked to add barriers that were not part of the piloted items. As a result of the expert rating and the pilot study, one practicability item ($M = 1.83$, $SD = 1.84$) and one therapist distress item ($M = 1.50$, $SD = 0.55$) were deleted due to low relevance for the corresponding category. All other items were rated as relevant and valid for the assessment of the targeted barriers ($3.50 \geq M \leq 5.00$). In total, 10 items were used to assess barriers of practicability and 11 items to assess therapist distress (a copy of the original version and an English translation can be found in the [supplemental material](#)).

Finally, in addition to the three categories of potential barriers, self-reported competence to conduct exposure for specific disorders was explored. To this end, participants indicated their agreement (0 = *strongly disagree* to 4 = *strongly agree*) to the statement “I feel competent to conduct exposure for the following disorder...” for SP, PD, AG, SAD, GAD, PTSD, and OCD.

STATISTICAL ANALYSIS

Descriptive statistics were used to identify the most commonly agreed upon barriers within the three categories of practicability, negative beliefs, and therapist distress. To this end, the rate of agreement to each barrier was calculated and items were ranked according to their average rate of agreement. In addition, descriptive statistics were calculated for the combined scales of each category. Cronbach's α was calculated for each category as a psychometric indicator of internal consistency to

justify calculation of means and their use in further analyses. Average agreement was entered into a repeated measures ANOVA to test whether average agreement rates differ between categories. Pearson correlations were calculated to analyze associations between average agreement to barriers and demographic data. For self-reported competence, mean ratings were compared between the different disorders with a repeated measures ANOVA. For follow-up multiple comparison, p values were Bonferroni-Holm corrected. Furthermore, analyses aimed to investigate associations between self-reported barriers and the self-reported utilization of exposure-based interventions. To this end, Pearson correlations between the average agreement to each category and the self-reported utilization were calculated. Next, a multiple linear regression model was calculated with self-reported utilization as dependent variable and average agreement to each category as well as average self-reported competence ratings as independent variables.

Results

PRACTICABILITY

Relative agreement to each item of practicability barriers is shown in [Figure 1](#). Items with the highest agreement were mainly related to the loss or cancellation of other patients' sessions and a high risk of unpredictable and uncompensated absence of the patient supposed to undergo exposure. In addition, about 30% of the therapists agreed or strongly agreed that conducting exposure is impeded because patients cannot coordinate exposure exercises with their work or free time, they themselves do not have time to conduct exposure outside their own office, or because it is too much effort to prepare exposure exercises. Least agreed upon barriers, but still showing rates of agreement or strong agreement of about 20%–25%, were a lack of time due to a high patient load, a general infeasibility of exposure or interventions that last longer than 1 hour, or the lack of appropriate exposure situations nearby.

NEGATIVE BELIEFS ABOUT EXPOSURE

Relative agreement to each negative belief is shown in [Figure 2](#). For most items, rates of agreement were around or below 10%. However, 23% to 52% of the therapists agreed or strongly agreed with negative beliefs reflecting either too much distress for the patient (arousal reduction strategies are necessary, patients at risk of decompensating or retraumatization, and patients experiencing difficulties tolerating distress) or superficial effects of exposure (works poorly for complex cases, only addresses superficial symptoms). In addition, a

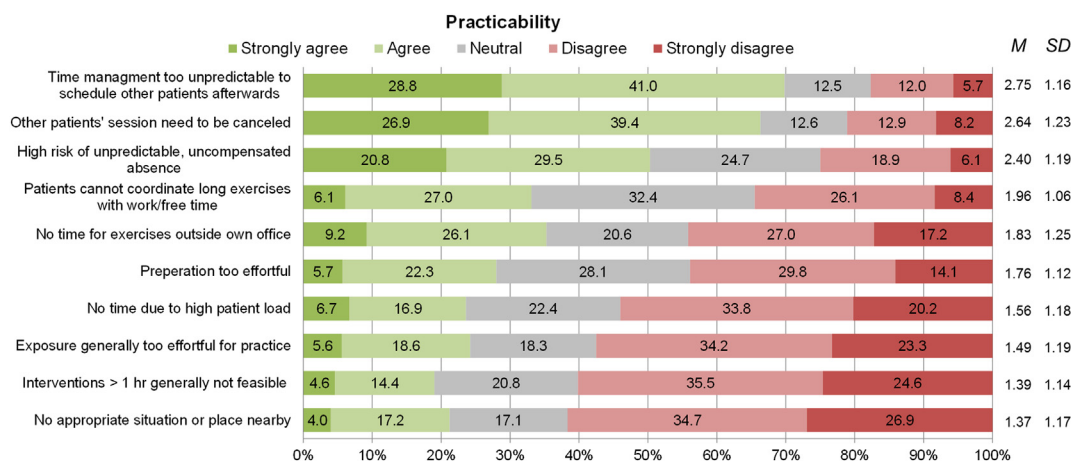


FIGURE 1 Relative agreement of behavioral psychotherapists to practicability barriers for conducting exposure-based interventions. Means (and SD) were calculated from the scale 0 = *Strongly disagree* to 4 = *Strongly agree*. Items are ordered with regard to average rates of agreement.



FIGURE 2 Relative agreement of behavioral psychotherapists to negative beliefs about exposure-based interventions. Means (and SD) were calculated from the scale 0 = *Strongly disagree* to 4 = *Strongly agree*. Items are ordered with regard to average rates of agreement.

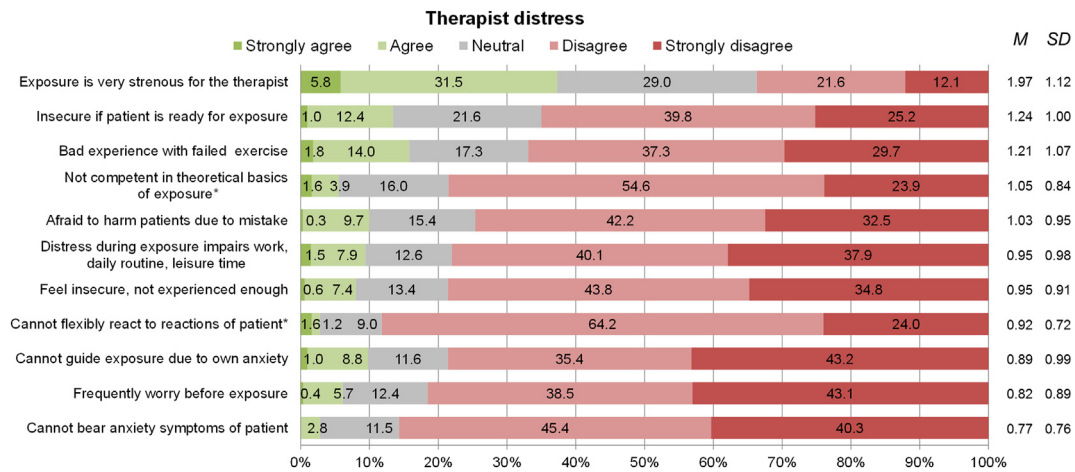


FIGURE 3 Relative agreement of behavioral psychotherapists to statements regarding distress of the therapist when conducting exposure-based interventions. Means (and SD) were calculated from the scale 0 = *Strongly disagree* to 4 = *Strongly agree*. Items are ordered with regard to average rates of agreement. * Items were reversed coded.

relatively high agreement (24.8%) was found for the belief that sessions outside the office will endanger confidentiality.

SELF-REPORTED DISTRESS OF THERAPISTS

Rates of agreement to items on therapist distress are shown in Figure 3. In general, rates of agreement were lower compared to negative beliefs and practicability barriers. However, about 37.3% agreed or strongly agreed that conducting exposure in their clinical practice is impeded because it is very strenuous for the therapist. Furthermore, 10%-15% agreed or strongly agreed that the use of exposure is impeded because they are insecure if the patient is ready for exposure, are afraid to harm the patient, had a bad experience with a failed exercise, or cannot guide exposure to own anxiety or impairments.

AVERAGE RATES OF AGREEMENT COMPARED BETWEEN CATEGORIES OF BARRIERS AND ASSOCIATION WITH DEMOGRAPHIC DATA

Descriptive statistic of the combined scales of each category were (a) Practicability: $M_{\text{Average}} = 1.92$ ($SD = 0.77$, Range = 0–3.90), $M_{\text{Sum}} = 19.15$ ($SD =$

7.68, Range = 0–39); (b) Negative beliefs: $M_{\text{Average}} = 1.27$ ($SD = 0.54$, Range = 0.10–3.14), $M_{\text{Sum}} = 26.65$ ($SD = 11.32$, Range = 2–66); and (c) Self-reported distress of therapists: $M_{\text{Average}} = 1.07$ ($SD = 0.55$, Range = 0–2.73), $M_{\text{Sum}} = 11.81$ ($SD = 6.05$, Range = 0–30). Internal consistency was good to excellent for all three categories – Practicability: Cronbach's $\alpha = 0.85$, $CI_{95} = 0.84$ –0.87; Negative beliefs: Cronbach's $\alpha = 0.89$, $CI_{95} = 0.88$ – 0.91; Self-reported distress: Cronbach's $\alpha = 0.81$, $CI_{95} = 0.79$ – 0.83.

The repeated measures ANOVA indicated that the average agreement differed between the three categories, $F(2, 652) = 579.34$, $p < .001$, $\eta_p^2 = .470$. Pair-wise comparisons indicated that average rates of agreement were higher for barriers of practicability compared to negative beliefs, $p < .001$, $d = 0.96$, and therapist distress, $p < .001$, $d = 1.24$. In addition, average agreement was higher for negative beliefs compared to therapist distress, $p < .001$, $d = 0.35$.

Associations between average agreement to each category and demographic data were mostly small (see Table 1). The number of exposure-specific training hours significantly correlated with lower

Table 1

Associations Between Demographic Data and Average Agreement to Barriers and Intercorrelation Between Rates of Agreement to Different Barriers

	Practicability barriers	Negative beliefs	Therapist distress
Age	.03	.16	-.04
Years working as therapist	.04	.07	-.09
Number of exposure-specific training hours	-.18	-.19	-.17
Number of treated cases with principal anxiety or related disorder	-.05	-.06	-.21
Negative beliefs	.48	-	-
Therapist distress	.39	.60	-
Self-reported competence	-.12	-.32	-.48

Note. Bold numbers represent significant associations with p values $< .05$.

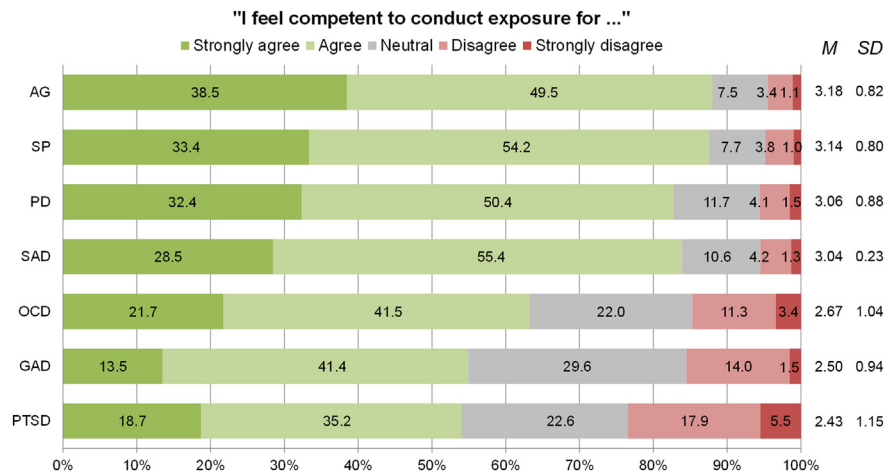


FIGURE 4 Self-reported competence to conduct exposure for anxiety and related disorders as indicated by agreement to the statement "I feel competent to conduct exposure for the following disorder..." for agoraphobia (AG), specific phobia (SP), panic disorder (PD), social anxiety disorder (SAD), obsessive-compulsive disorder (OCD), generalized anxiety disorder (GAD), and posttraumatic stress disorder (PTSD). Means (and SD) were calculated from the scale 0 = *Strongly disagree* to 4 = *Strongly agree*. Items are ordered with regard to average rates of agreement.

average agreement to each category with small effect sizes. In addition, a higher number of treated cases with a principal anxiety disorder, OCD, or PTSD was associated with lower agreement to therapist distress items.

SELF-REPORTED COMPETENCE

Self-reported competence to conduct exposure for distinct anxiety and related disorders is shown in Figure 4. Competence ratings significantly differed between disorders, $F(6, 645) = 111.31, p < .001, \eta_p^2 = .147$. Pair-wise comparisons with Bonferroni-Holm alpha correction indicated that self-reported competence was higher for AG, SP, PD, and SAD compared to OCD, GAD, and, PTSD, respectively, $ps < .001, ds = 0.39-0.77$. In addition, self-reported competence was higher for AG compared to PD, $p = .035, d = 0.15$, and SAD, $p = .017, d = 0.17$. Finally, self-reported competence was higher for OCD compared to GAD, $p = .002, d = 0.17$, and PTSD, $p < .001, d = 0.23$.

ASSOCIATION BETWEEN BARRIER AND WITH SELF-REPORTED UTILIZATION OF EXPOSURE

Average agreement to each category as well as self-reported competence were intercorrelated with small (competence and practicability barriers) to large effect sizes (negative beliefs and therapist distress), as shown in Table 1. Zero-order correlations and results of the multiple regression with self-reported utilization as dependent variable are shown in Table 2. For zero-order correlations, a

higher agreement to each category was significantly associated with less utilization of exposure with medium effect sizes (see Cohen, 1992). A higher mean competence rating was significantly associated with more frequent utilization with a small to medium effect size. In the multiple linear regression model, 17% of the variance in self-reported utilization was explained. Association remained significant for average agreement to negative beliefs, practicability, and self-reported competence. Average agreement to therapist distress barriers did not show a significant association with self-reported utilization anymore. However, negative beliefs and therapist distress were highly correlated, which led to problems of multicollinearity (see Tolerance and VIF in Table 2). When removing negative beliefs from the multiple regression, therapist distress showed a significant association with self-reported utilization, however, with a smaller effect size compared to negative beliefs (Regression without negative beliefs: $R^2 = .15, F(3, 590) = 33.47, p < .001$; therapist distress, $\beta = -.10, t = -2.10, p = .036$, practicability barriers, $\beta = -.25, t = -6.11, p < .001$, self-reported competence, $\beta = .16, t = 3.64, p < .001$. Regression without therapist distress: $R^2 = .17, F(3, 586) = 40.23, p < .001$; negative beliefs, $\beta = -.21, t = -4.68, p < .001$, practicability barriers, $\beta = -.20, t = -4.62, p < .001$, self-reported competence, $\beta = .14, t = 3.57, p = .001$).

Discussion

The present study investigated distinct barriers for the dissemination of exposure-based interventions

Table 2
Zero-Order Correlation and Multiple Linear Regression Results

Dependent variable	Independent variable	Zero-order <i>r</i>	β	<i>t</i>	<i>p</i> ^a	Collinearity statistics	
						Tolerance	VIF
Self-reported utilization of exposure	Practicability	-.32*	-.20	4.55	<.001	.75	1.34
	Therapist distress	-.28*	-.01	0.03	.974	.52	1.92
	Negative beliefs	-.35*	-.21	4.17	<.001	.56	1.80
	Self-reported competence	.24*	.14	3.33	.001	.77	1.30
	<i>R</i> ²					.17	
	<i>F</i> for change in <i>R</i> ²					30.12*	

Note. Zero-order correlations refer to bivariate correlation between self-reported utilization of exposure and the corresponding independent variable.

from the perspective of behavioral psychotherapists working in outpatient routine care. Barriers regarding practicability of exposure in routine care, negative beliefs about exposure, and therapist distress when conducting exposure were assessed. Average rates of agreement for barriers of practicability were higher compared to negative beliefs and for negative beliefs compared to therapist distress. However, high rates of agreement were found for single barriers within each of the three categories. In addition, average agreement to each category was negatively associated with self-reported utilization of exposure with medium effect sizes. In a multiple regression model, barriers of practicability and negative beliefs about exposure were associated with less utilization of exposure. The number of exposure-specific training hours negatively correlated with average agreement to each category of barriers, however, with small effect sizes. These findings highlight that comprehensive dissemination of exposure requires a multilevel approach targeting individual, practical, and systemic barriers (see also Pittig & Hoyer, 2017). Besides training approaches, future dissemination efforts may therefore benefit from incorporating strategies such as modifying negative beliefs (see Farrell, Deacon, Dixon, & Lickel, 2013), stress management strategies for therapist, or increasing practicability of exposure-based interventions.

PRACTICABILITY

Issues regarding the practicability of exposure on average yielded the highest rates of agreement. Prominent barriers of exposure were related to unpredictable time management, the need to cancel other patients' sessions, and a high risk of uncompensated absence of the patient supposed to undergo exposure. In addition, about 30% of the therapists agreed or strongly agreed that patients cannot coordinate exposure with their work or free time, they themselves do not have time for exercises outside their own office, or because it is too much

effort to prepare such exercises. A high patient load or a general infeasibility of exposure were less often indicated as barriers of exposure (approximately 20%–25%). Whereas such practicability barriers have often been discussed anecdotally (e.g., Neudeck & Einsle, 2010), empirical data were scarce as of now. The present findings thus highlight that therapist-reported issues of practicability represent major barriers for the dissemination of exposure.

In this regard, targeting practicability issues may be a promising approach to increase dissemination of exposure. However, practicability issues are most likely a mixture of a wide range of underlying factors that may vary from case to case. Some may be inherent to the exposure method itself. Obviously, conducting exposure in vivo outside one's office is more effortful than other interventions, and this effort heavily depends on where a certain psychological practice is situated (e.g., exposure in large shopping malls may be complicated in rural areas). In addition, perceived barriers regarding unpredictable and risky time management relates to the traditional practice of conducting long exposure sessions to allow for habituation. Recent findings, however, challenge the traditional habituation-based approach (Craske et al., 2008; Nacasch et al., 2015). At least for some patients, these findings open the opportunity for shorter exercises associated with better time management (although others may still need longer exposure durations). Other factors may be related to health care regulations and financial factors. For example, we previously reported that therapists associate exposure with an unfavorable effort-compensation ratio compared to other interventions (Pittig & Hoyer, 2017). Finally, issues of practicability may be associated with individual preferences or willingness of the therapist (e.g., not being willing to prepare exposure exercises). All these factors most likely interact. For example, the willingness to conduct and prepare longer exposure sessions may depend on financial compensation of these efforts.

In sum, targeting issues of practicability seems to require a multilevel approach incorporating individual and systemic factors. Moreover, “blended treatment” approaches, such as combining face-to-face treatment with digital technology, may reduce barriers of practicability (Fairburn & Patel, 2017). For example, following face-to-face therapist-guided exposure, a therapist may guide exposure sessions from their own office via video-based digital communication. However, further evaluation of the effectiveness of such blended treatment formats is required, especially because therapist-guided exposure has been found to be more effective compared to unguided exercises (Gloster et al., 2011).

NEGATIVE BELIEFS ABOUT EXPOSURE

Individual barriers of exposure were also apparent in the therapists’ agreement to negative beliefs about exposure. Negative beliefs with the highest agreement were related to patients not being able to tolerate distress evoked by exposure, being at risk for decompensation, and the necessity of arousal reduction strategies. Furthermore, high rates of agreement were obtained regarding the superficial effectiveness of exposure (i.e., works poorly for complex cases, only addresses superficial symptoms). These beliefs are problematic as they have been associated with overly cautious and suboptimal delivery of exposure (Deacon, Farrell, et al., 2013; Deacon, Lickel, et al., 2013; Farrell, Deacon, Kemp, et al., 2013; Meyer, Farrell, Kemp, Blakey, & Deacon, 2014; Whiteside, Deacon, Benito, & Stewart, 2016). Crucially, these beliefs are not consistent with recent empirical findings. For example, although exposure is demanding for patients, it was the preferred form of treatment in patients with PTSD (Becker, Darius, & Schaumberg, 2007) and judged as more acceptable and effective compared to pharmacotherapy (Deacon & Abramowitz, 2005; G. R. Norton, Allen, & Hilton, 1983). In addition, past reviews did not support that exposure is linked to a higher risk of harming the patient (e.g., Olatunji et al., 2009). Moreover, a large number of studies provided evidence that exposure is also effective for complex cases. For example, exposure has been successfully used in individuals with comorbid schizophrenia (Frueh et al., 2009; Halperin, Nathan, Drummond, & Castle, 2000; Kingsep, Nathan, & Castle, 2003; Van Den Berg & Van Der Gaag, 2012) and exposure-based CBT yielded comparable effects in individuals with and without comorbid depression (Emmrich et al., 2012).

Interestingly, the present findings replicate a recent study (Deacon, Farrell, et al., 2013). In fact, four of the top five agreed-upon beliefs in the

present study were also within the top five of Deacon, Farrell, et al. (2013). This similarity is noteworthy as both studies were conducted in different health care systems (U.S. and Germany) with different regulations for providing psychotherapy and prior training to obtain a license. Negative beliefs regarding too much distress for the patient and superficial effects of exposure may thus represent a rather universal dissemination barrier. This may pose a serious issue during the treatment of anxiety disorders as it conveys the message that “anxiety is indeed dangerous”. First evidence on trainings that directly address prominent beliefs yielded a reduction in negative beliefs and an increase in motivation to use exposure-based interventions (see Becker-Haimes, Franklin, Bodie, & Beidas, 2017; Deacon, Farrell, et al., 2013; Farrell, Deacon, Dixon, et al., 2013). Therefore, negative beliefs should be directly addressed during training by default.

Strikingly, negative beliefs about exposure were positively associated with perceived barriers of practicability with a large effect size. This finding is surprising as practical barriers should theoretically be unrelated to subjective beliefs—that is, practical barriers should objectively not differ between therapist with and without negative beliefs about exposure. The present results thus suggest that therapists holding strong negative beliefs also perceive exposure as being more impractical. Conversely, therapists not holding negative beliefs may be better able to implement exposure in their practical routine. These findings offer important evidence for future research. Future studies may examine ways in which therapists not holding negative beliefs might disseminate exposure strategies for all therapists. Future research may also investigate whether strategies to reduce negative beliefs simultaneously reduce perceived impracticality.

DISTRESS OF THE THERAPIST

It has to be emphasized that average agreement to own distress of the therapist hindering the use of exposure was lower compared to the other categories. Agreement to most items was below 10%. Around 16% of the therapists agreed that previous experience with failed exercises impeded the use of exposure-based interventions. These therapists may benefit from tailored inter- or supervision approaches. Whereas supervision typically involves structured discussion with and feedback from a therapist with expertise in exposure, intervention involves case reviews with coequal coworkers. Both strategies are useful for discussing development and management of failed exercises, coping strategies, and encouragement for therapists. In addition to a

face-to-face approach, web- and computer-based approaches are easily accessible (Becker-Haimes et al., 2017; Roy-Byrne et al., 2010). In addition, around 13% were insecure regarding patients' readiness for exposure. This insecurity may be associated with the negative belief that patients are at risk of decompensating and thus exposure can be conducted "too early".

Most important, more than a third of the therapists (37.3%) agreed that exposure is hindered because it is strenuous *for the therapist*. Recent findings support the notion of exposure being strenuous for therapists. For example, high levels of physiological stress responses have been reported in therapists conducting exposure, with comparable responses for therapists and patients (Schumacher et al., 2014, 2015). Although direct comparisons are missing, it thus seems likely that exposure is more challenging and distressing compared to other types of interventions, especially for trainees and relatively unexperienced therapists. Addressing stress management and coping strategies for therapist during training of exposure-based interventions may thus be an additional approach to increase the dissemination of exposure-based interventions. In addition, the number of exposure-specific training hours and especially the number of treated cases with a principal anxiety disorder negatively correlated with therapist distress ratings. General experience was less strongly associated with therapist distress and the other barriers. These findings highlight the importance of exposure-specific training and practice over general training (see also Broicher et al., 2017). These findings may also suggest that therapist experience a decrease in exposure-related distress with more experience. Exposing therapist to exposure and encouraging them to continue using exposure may thus be an important supplement to mere technical training of exposure techniques (see also Harned et al., 2014). Given the correlational nature of our findings, prospective studies may be useful to validate these findings.

SELF-REPORTED COMPETENCY

Finally, the present study also explored subjective competency to conduct exposure for different anxiety and related disorders. Self-reported competence across disorders was high. For specific disorders, subjective competency was highest for AG, SP, PD and SAD and significantly lower for OCD, GAD, and PTSD. Lowest competency ratings were obtained for GAD and PTSD. There may be different explanations for these differences in disorder-specific competency. First, difficulty of conducting exposure may objectively differ between disorders. Second, therapists may have received more or specialized

training for one, but not another disorder, resulting in higher competence for better trained disorders. Third, as some disorders may more frequently occur in outpatient clinical practice, therapists may have more continued practice with these disorders. Finally, complexity of previously treated cases may be higher for some disorders (e.g., for patients with complex traumatization). Unfortunately, these explanations cannot be disentangled by the present data as competency ratings were solely based on self-report and no additional data on specialization, training, previous experience, or complexity of previously treated cases were available. Further research is thus needed to pinpoint the underlying factors of disorder-specific differences in self-reported competency.

ASSOCIATION WITH SELF-REPORTED UTILIZATION

Average agreement to each category of barriers as well as average self-reported competency was associated with self-reported utilization of exposure. In the combined regression model, only average agreement to therapist distress was not significantly associated with utilization of exposure anymore (however, see problems of multicollinearity). These findings might be interpreted as distinct relevance of each or most categories of barriers as well as self-reported competence for the dissemination of exposure. However, results need to be treated with caution. As the main goal of the present study was to assess barriers from the perspective of psychotherapists, utilization data were solely based on self-report of the therapists and assessed with only a single item. Previous studies indicated that patients' reports of what interventions were conducted during CBT typically yield lower rates of exposure utilization and do oftentimes not correspond to exposure use reported by therapists (Schubert et al., 2003). In addition, the present study cannot verify if self-reported exposure was conducted in an evidence-based manner. Results may therefore be replicated for the association between barriers and objective assessments of exposure delivery. Nevertheless, the present findings highlight the role of different categories of barriers for the reported use of exposure.

FURTHER LIMITATIONS AND FUTURE DIRECTIONS

Some additional methodological limitations need to be mentioned. First of all, results are based on self-report. This was in line with the study's main goal to examine dissemination barriers from the perspective of behavioral psychotherapists. Still, some barriers of practicability and especially competence

may differ when assessed via other methods (such as patient reports or external ratings of competence). Future studies may, for example, assess issues of practicability from the perspective of patients. Second, although the sample is large, a certain risk of sampling bias exists. Specifically, those members of the target population who are less in favor of exposure-based interventions and less committed to evidence-based practice may have been less likely to respond to the survey. In that case, the present results underestimate barriers seen by the population of behavioral therapists in routine care. Such bias may especially underestimate the frequency of negative beliefs about exposure in routine care. It can thus be assumed that the frequency of negative beliefs in the present study represents a lower bound. Third, the present findings were based on a sample of psychotherapists working in the German health care system. This raises the question of how representative the results are for therapists working under different regulations. Whereas systemic barriers (e.g., financial compensation, health insurance standards) most likely depend on the specific health care system (see Pittig & Hoyer, 2017), the barriers investigated in the present study may be more universal. In support, the most frequent negative beliefs about exposure found in the present study were highly similar to results reported in the U.S. health care system (Deacon, Farrell, et al., 2013). A similar universality may be assumed for barriers regarding practicability and therapist distress. Nevertheless, future studies may evaluate the similarity of these barriers in other systems.

Conclusion

In sum, present findings highlight the involvement of different categories of barriers for the dissemination of evidence-based exposure treatments. High rates of agreement were found for single barriers within the categories of practicability, negative beliefs, and therapist distress. Average agreement to each category was negatively associated with less frequent utilization of exposure when treating patients with a principal anxiety disorder. In addition, self-reported competence was generally high across different disorders. For specific disorders, self-reported competence was higher for AG, SP, PD and SAD and lower for OCD, GAD, and PTSD. High agreement to various barriers illustrates that a multilevel approach targeting individual, practical, and systemic barriers is necessary to optimize the dissemination of exposure-based interventions. Such approaches may incorporate explicitly addressing negative beliefs during exposure training, “blended treatment” formats, in

which exposure is guided by the therapist via web-based online communication, and stress management strategies for therapists after conducting exposure.

Conflict of Interest Statement

The authors declare that there are no conflicts of interest.

Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.beth.2018.07.003>.

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