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**Impact of education on clinicians' attitudes to exposure therapy for eating disorders**

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## **Impact of education on clinicians' attitudes to exposure therapy for eating disorders**

### **Abstract**

It is well established that clinicians use exposure therapy far less often than the evidence would suggest is justified. This shortfall has been explained as being at least partly a result of clinicians' beliefs and attitudes about exposure and their trait anxiety. Recent studies have shown that attitudes to exposure therapy for anxiety disorders can be improved through a simple educational approach. This study aimed to determine whether a similar educational approach can improve therapists' attitudes to exposure therapy for the eating disorders, and whether clinician's pre-intervention characteristics influenced the impact of the training. Thirty-four eating disorder clinicians (30 female, four male; mean age = 39.0 years; 85.3% Caucasian) attended a 90-minute didactic teaching session on the subject of the use of exposure in treatment of eating disorders. Their attitudes to exposure therapy were measured before and after the workshop, in a within-subject design. The outcome was a substantial improvement in attitudes, with a strong effect size (Cohen's  $d = 1.68$ ) that was comparable to the outcome of a similar intervention among clinicians working with anxiety disorders. The improvement was not related to clinicians' anxiety levels, but was greater among those whose attitudes were more negative at the outset of the teaching. While this finding needs to be tested for long-term maintenance and its relationship to change in clinical practice, it adds to the evidence that a simple educational intervention is sufficient to result in substantial improvement in clinicians' attitudes to exposure therapy.

Keywords: exposure therapy; anxiety; eating disorders; training

### **Impact of education on clinicians' attitudes to exposure therapy for eating disorders**

Exposure with response prevention is a very powerful therapeutic technique, but it is used far less often than the evidence might suggest (Harned, Dimeff, Woodcock, & Contreras, 2013). It has potential uses in all disorders that have an anxiety-based component. This includes eating disorders, where anxiety is a key maintaining factor for behaviours such as restriction, bingeing, purging and body avoidance (e.g., Pallister & Waller, 2008). Furthermore, anxiety can lead the eating-disordered patient to want to avoid central elements of therapy, such as weighing (e.g., Waller & Mountford, 2015). These processes in eating pathology explain why evidence-based cognitive-behavioural therapy (CBT) for eating disorders has a strong exposure-based element (e.g., Fairburn, 2008; Waller, Cordery, Corstorphine, Hinrichsen, Lawson, Mountford & Russell, 2007).

However, despite its theoretical and empirical support, exposure-based therapy is used relatively infrequently with eating disorders (Turner, Tatham, Lant, Mountford & Waller, 2014; Waller, Stringer & Meyer, 2012). This low level of usage is similar to that in other diagnostic groups (e.g., Becker, Zayfert & Anderson, 2004), and is explained at least in part by similar intra-clinician characteristics (Deacon, Lickel, Farrell, Kemp & Hipol, 2013; Farrell, Deacon, Kemp, Dixon & Sy, 2013). In the anxiety disorders, the reasons given for not using exposure are more related to clinicians' negative beliefs about exposure therapy (e.g., Deacon, Lickel, et al., 2013) than to evidence of possible outcomes (Deacon & Farrell, 2013). In both anxiety and eating disorders, clinician anxiety is also associated with poorer use of exposure-based methods (Meyer, Farrell, Kemp, Blakey & Deacon, 2014; Turner et al., 2014).

Different proposals have been advanced regarding how clinicians might be encouraged to improve their uptake of exposure therapy, including role plays, the use of case material, and attitude inoculation (e.g., Farrell, Deacon, Dixon & Lickel, 2013). However, a more straightforward and efficient approach might be the use of psychoeducation to address negative attitudes to this therapeutic method. Deacon, Farrell,

Kemp, Dixon, Sy, Zhang & McGrath (2013) have shown that a one-day didactic workshop has a very substantial positive effect on clinicians' attitudes to the use of exposure therapy (effect size;  $d = 1.50$ ). Using a non-clinician sample, a much shorter piece of educational work showed a similar positive effect on beliefs about exposure, though with a smaller effect size (Arch, Twohig, Deacon, Landy & Bluett, 2015). However, such an education-based approach has not been tested with clinicians who work with eating disorders, so it is not possible to assume that the findings of those studies will generalise to this field. Nor is it known whether individual clinicians are more or less likely to respond to such an intervention.

Therefore, this study aimed to demonstrate whether a relatively didactic teaching session can improve clinicians' attitudes to the use of exposure with response prevention, and whether clinicians differ in their attitudinal change according to their baseline characteristics. The primary hypothesis was that eating disorder clinicians would show an improvement in their attitudes and beliefs regarding exposure therapy following a brief teaching session. The second hypothesis was that the use of exposure and attitudes to it would be related to the clinicians' characteristics, with more negative attitudes among those clinicians: who had higher personal levels of anxiety; who used exposure less in their everyday practice; and whose training could be presumed to have involved more of an introduction to exposure therapy (psychologists and psychiatrists). The final hypothesis was that the degree of change in attitudes and beliefs would be related to the individual's characteristics, with a greater degree of change among those who were already familiar with and holding positive attitudes towards exposure therapy.

## **Method**

### **Ethical clearance**

This research received ethical clearance from the Research Ethics Committee of the Department of Psychology, University of Sheffield.

### **Participants**

For the primary outcome variable (change in TBES scores), the effect size ( $d = 1.50$ )

obtained by Deacon, Farrell, et al. (2013) was used to calculate the minimum sample size needed. For a one-tailed paired t-test with  $P = .05$  and  $alpha = 95\%$ , only seven participants were needed. However, a larger number were targeted as the teaching was shorter in this study (1.5 hours) than in the Deacon, Farrell et al. workshop (one day). The lower 'dose' of teaching might have a smaller effect than the larger dose, leading to the possibility that the power of this 1.5 hour teaching session would be lower. Therefore, the number of participants should be well above the number indicated by Deacon, Farrell et al.'s effect size.

Thirty-four therapists participated (sufficient to yield a power of 95% even with a much smaller effect size of 0.6 (one-tailed  $P = .05$ ). Each participant attended a didactic teaching workshop on using exposure with response prevention in CBT for eating disorders, at an international eating disorders conference. The workshop was one of several parallel sessions, so the attendees were likely to have a specific interest in CBT. Attendees were asked to take part in the research if they were happy to do so, and participation was anonymous. A total of 45 questionnaire packs were circulated, resulting in a participation rate of 75.6%. Of the 34 participants, 30 were female and four were male, while 29 (85.3%) were Caucasian. Their mean age was 39.0 years ( $SD = 10.4$ ). They were from a range of professions, including clinical psychology ( $N = 13$ ), dietetics ( $N = 7$ ), psychiatry ( $N = 4$ ), nursing ( $N = 2$ ), social work ( $N = 2$ ), family therapy ( $N = 1$ ), occupational therapy ( $N = 1$ ), counselling ( $N = 1$ ), psychotherapy ( $N = 1$ ), and art therapy ( $N = 1$ ). One participant did not state their profession.

### **Measures and Procedure**

At the beginning of the session, each participant read the information sheet. To ensure that the participants were clear that the topic was exposure therapy rather than any other anxiety-provoking experience, the information sheet commenced with:

'Today's teaching session is about the use of exposure therapy in treating eating disorders. Clinicians have a range of attitudes to eating disorders and to the use of different treatment methods, making us more or less likely to use those methods. We would like to know what your attitudes are to using exposure

therapy techniques in particular. We would also like to understand who is likely to have more or less positive attitudes to exposure therapy, and to determine whether or not teaching sessions (such as this one) have any impact on those attitudes in the short- and long-term'.

This point was reinforced in the introduction to the teaching, where the topic was defined as 'exposure with response prevention'. Participants then completed the consent form, and provided demographic information (gender, age, profession, whether they used exposure work, and what percentage of the time if they did). Following this, during the introduction to the workshop, they completed two self-report measures – the short form of the Intolerance of Uncertainty Scale (IUS-SF) and the Therapist Beliefs about Exposure Scale (TBES). The TBES was completed again during the final five minutes of the workshop, during questions.

**Measures.** The *Intolerance of Uncertainty Scale-Short Form* (IUS-SF; Carleton, Norton & Asmundson, 2007) is an established and well-validated measure of the cognitions that underpin anxiety, with a clear factor structure, internal consistency and clinical validity. It consists of 12 items that make up two subscales – prospective anxiety (inability to tolerate uncertainty) and inhibitory anxiety (inability to act due to uncertainty). Higher scores indicate greater levels of anxiety. This measure has been shown to be a useful indicator of clinicians' anxiety (Turner et al., 2014).

The *Therapist Beliefs about Exposure Scale* (TBES; Deacon, Farrell, Kemp, Dixon, Sy, Zhang & McGrath, 2013) is also a well-validated measure, which addresses clinicians' attitudes and beliefs regarding the use of exposure therapy. It consists of 21 items (e.g., 'Exposure therapy is difficult to tailor to the needs of individual clients'), which form a single scale. Higher total scores indicate more negative attitudes to the use of exposure therapy. The TBES has a very good test-retest reliability, as well as being responsive to teaching-based interventions (Deacon, Farrell, et al., 2013).

**Teaching session.** The teaching session<sup>1</sup> lasted for 90 minutes, and covered the following in terms of theory and evidence: the psychology and physiology of anxiety; mechanisms of anxiety development and maintenance (including safety behaviours); relationship of anxiety with eating; anxiety reduction mechanisms (exposure based); response prevention (in anxiety disorders and in eating disorders); evidence that clinicians often do not use exposure with eating disorders or other disorders; reasons why clinicians do not use exposure in different disorders; ways of using exposure with response prevention to treat eating disorders (e.g., changing eating patterns, weighing patients, delaying bingeing and purging behaviours, body image exposure); and plans for implementation in clinical practice.

### **Data analysis**

Cronbach's alpha was used to determine the internal consistency of the TBES and IUS-SF scales, and Kolmogorov-Smirnov tests were used to determine whether the data were sufficiently normally distributed. The primary hypothesis was tested using a paired *t*-test to compare pre- and post-teaching TBES scores. Hypotheses two and three were tested using a mixture of Pearson's correlations and independent samples *t*-tests, for dimensional and categorical variables.

## **Results**

### **Impact on therapists' beliefs about exposure work with eating-disordered patients**

Table 1 shows the characteristics of the sample, the therapists' scores on the TBES and IUS prior to the teaching, and their TBES scores after the teaching. The pre-teaching TBES scores (mean = 27.5, *SD* = 10.2) were slightly lower than those of Deacon, Farrell, et al. (2013), who reported a mean TBES score of 33.1 (*SD* = 11.1) at this stage. The IUS scores were similar to other studies reporting this measure when used with therapists (Turner et al., 2014). Most scales had adequate internal consistency in this sample, though the IUS Inhibitory anxiety scale was below the conventionally acceptable *alpha* of 0.7. Each psychometric measure was sufficiently normally distributed to allow the use of parametric

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<sup>1</sup> Copy of workshop slides available from the corresponding author.

analyses (Kolmogorov-Smirnov tests).

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Insert Table 1 about here

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The therapists' mean scores on the TBES reduced substantially following the teaching session (mean score pre-teaching = 27.5; mean score post-teaching = 16.7). A paired samples *t*-test showed that this difference was highly significant ( $t = 9.44$ ,  $P < .001$ , mean difference = 11.2, 95% *CI* = 8.82-13.7), with a very strong effect size (Cohen's  $d = 1.68$ ). This change is comparable with that found by Deacon, Farrell, et al. (2013) (pre-teaching = 33.1; post-teaching = 17.3;  $d = 1.50$ ). Therefore, it can be concluded that there was a substantial improvement in therapists' attitudes to exposure as a result of this didactic teaching session. While there was no control group in this study, it is worth noting that the test-retest reliability reported for the TBES is very strong, with almost no change in mean scores over a six-month period when there was no intervention (Deacon, Farrell, et al., 2013).

### **Psychological factors relating to initial attitudes and to changes in attitudes**

Table 2 shows the associations (Pearson's  $r$ ) between initial TBES scores and pre-teaching psychological and other characteristics. It also shows such the association of pre-teaching variables with the degree of change in TBES scores. Change in beliefs about exposure was calculated by subtracting the post-teaching TBES score from the pre-teaching TBES score, so that a positive change score indicated the development of more positive beliefs about exposure therapy following the teaching session. The only factor that predicted level of change in TBES was the pre-teaching TBES score – the more negative the pre-teaching beliefs, the greater the improvement in those beliefs post-teaching.

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Insert Table 2 about here

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### The role of other clinician characteristics

**Gender.** Considering categorical variables, there were not enough male therapists in the group to determine whether gender was significantly related to attitudes. However, the mean TBES score for the 30 female therapists was higher than that for the four males (similar to the findings of Deacon, Farrell, et al., 2013).

**Prior use of exposure work.** There were 11 therapists who stated that they never used exposure work, and 23 who said that they ever did so. Those who never used exposure had significantly more negative attitudes to exposure at the start of teaching than those who did use this method (TBES score: mean = 32.5,  $SD = 8.18$  vs mean = 25.7,  $SD = 10.3$  respectively;  $t = 2.09$ ,  $P < .05$ ). However, the differences in TBES scores after the intervention was no longer significant between those who used exposure prior to the session (mean = 19.4;  $SD = 5.64$ ) and those who did not (mean = 15.4;  $SD = 9.25$ ) ( $t = 1.29$ ,  $NS$ ). However, there were no significant differences in the TBES change scores between those who used exposure prior to the teaching (mean = 10.3;  $SD = 6.97$ ) and those who did not (mean = 13.2;  $SD = 6.46$ ) ( $t = 1.16$ ,  $NS$ ).

**Professional background.** Finally, the professional group of the participants was considered, in order to determine whether those clinicians who might be expected to have had more of a prior introduction to exposure work would be more likely to change as a result of the training session. First, psychiatrists and psychologists were grouped together ( $N = 17$ ), and compared with all other participants who stated their profession ( $N = 16$ ). There were no differences between these two groups in TBES scores at the outset or conclusion of the teaching ( $t < 1.7$ ,  $P > .10$  in both cases).

In contrast, when comparing the psychologists ( $N = 13$ ) with all others ( $N = 20$ ), there was a significant difference in pre-intervention TBES scores ( $t = 2.50$ ,  $P < .02$ ), with the psychologists having lower scores (mean = 22.4,  $SD = 10.5$ ) than the other clinicians (mean = 30.7,  $SD = 8.61$ ). However, that difference was no longer significant by the end of the intervention (respectively, mean = 14.0,  $SD = 7.34$ ; mean = 18.3,  $SD = 8.86$ ;  $t = 1.43$ ,  $P >$

.16).

### Discussion

The primary hypothesis was that a relatively brief teaching session would be effective in improving clinicians' attitudes to the use of exposure therapy for the eating disorders. This hypothesis was supported, with a 90-minute teaching session having the same level of impact as had previously been obtained with a one-day teaching session (Deacon, Farrell, et al., 2013). Considering the second hypothesis, clinician anxiety was not related to initial attitudes to exposure but professional background was, with psychologists being more positive than others about using this technique. Prior use of exposure was related to more positive attitudes, but only at a categorical level (i.e., there was no impact of the degree to which the individual used exposure, but there was an impact of whether they used it at all with eating-disordered patients). The final hypothesis was not supported in the direction expected, as the only factor associated with a greater degree of positive attitudinal change was a more *negative* initial attitude to exposure work (rather than the anticipated pattern of such change being greater among those who started with more positive views of exposure therapy. The lack of any effects of clinician anxiety or demographic features is reassuring, as it indicates that the effects of such training are not precluded by clinicians' characteristics.

The finding that more negative attitudes at baseline were associated with greater improvement in attitudes to exposure is similar to the finding of Arch et al. (2015). In that study, the authors found that the credibility of exposure therapy among non-clinicians was enhanced by a brief educational module, but that effect was greater among those who had more negative views at baseline. Indeed, the current study emphasises the importance of such teaching, as those negative baseline attitudes to exposure were associated with never using that therapeutic technique. This pattern of findings across studies is encouraging, as it reinforces the conclusion that initial negative attitudes to exposure therapy are not grounds for pessimism on the part of trainers.

This study had an adequate sample size to reach reliable conclusions about the effectiveness of this educational intervention for clinicians, and has the ecological validity of

being carried out with practicing clinicians. It also indicates that the TBES has clinical utility in determining the attitudes of eating disorder clinicians to exposure-based techniques, helping us to understand why such clinicians do or do not use exposure when it is clinically indicated (e.g., changing dietary intake).

However, this study also has limitations, which require further research. One limitation is the lack of a no-intervention control group, meaning that one cannot exclude the possibility that the change in TBES scores represented a regression to the mean. Further studies should include appropriate control groups, including a no-intervention condition and an educational condition that does not address exposure therapy. A second issue is that further work should consider the impact of such interventions on individuals with different trainings and professions, to determine whether such variables moderate the impact of such interventions. Third, it is possible that the IUS might not be the optimum measure of anxiety, given that one of its scales did not achieve an alpha of 0.7. An alternative possibility is that clinician anxiety is not the best predictor of their use of exposure therapy, and that beliefs about patient fragility ('the spun-glass theory of the mind' – Meehl, 1973) are more likely to explain therapists' reluctance to use exposure-based methods for eating disorders. For example, Meyer et al. (2014) have used the Broken Leg Exception Scale to demonstrate clinicians' views on the applicability of exposure work to patients with anxiety disorders. They showed that clinicians see specific patient characteristics (e.g., emotional fragility, comorbid psychosis, reluctance to participate in exposure work, comorbid substance abuse) as justifying excluding anxious patients from exposure therapy, even in the absence of any evidence for such a course of action. Therefore, future research should consider clinicians' perceptions of patient fragility and our tendency to use that perception to exclude eating-disordered patients from exposure-based methods.

Furthermore, there is a need to determine which components of the teaching were crucial, and whether the same components apply across disorders. For example, it has been argued that manualised approaches are more acceptable if they include case material (e.g., Addis, Wade & Hatgis, 1999; Stewart & Chambless, 2010), but it is not clear whether or not

that applies in this intervention (where case material was used). Farrell, Deacon, Dixon, et al. (2013) suggest that a multi-faceted approach might be needed to change clinicians' use of exposure (e.g., simulated exposure exercises, attitude inoculation work, case descriptions). However, Deacon, Farrell, et al. (2013), Arch et al. (2015) and the current study might indicate that some change can be brought about through education alone. However, this conclusion should be treated with caution, as it is possible that the more multifaceted approach suggested by Farrell, Deacon, Dixon et al. would result in more resilient changes in attitudes over the long term and would drive wider changes (e.g., greater implementation of exposure therapy in everyday practice). Further study is needed to determine the range of potential long-term effects of more or less complicated interventions. Most importantly, will a psychoeducational intervention have long-lasting effects (e.g., is there a need for repeated teaching 'top-ups'), and will those changes in attitudes translate into the delivery of exposure therapy techniques in everyday practice?

Exposure therapy is substantially under-used (e.g., Harned et al., 2013). If these effects on beliefs and attitudes are long-lasting and translate into practice, then a clear clinical implication is that therapists should be taught explicitly about the benefits of exposure therapy and the techniques involved. Such an intervention is likely to include explicitly addressing clinicians' negative attitudes and the reasons that such beliefs are held (e.g., Deacon & Farrell, 2013; Harned et al., 2013). The present findings suggest that such teaching of clinicians should apply as much to the anxiety and safety behaviours that underpin the eating disorders (e.g., Pallister & Waller, 2008) as they do to the treatment of anxiety disorders per se.

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Table 1

Characteristics of the clinician group, and pre- and post-teaching levels of therapists' beliefs about exposure

	Mean	(SD)	Cronbach's <i>alpha</i>	Kolmogorov- Smirnov Z
<b>Clinician characteristics</b>				
Age (years)	39.0	(10.4)	-	-
Hours per week in face-to-face patient contact	16.3	(8.38)	-	-
Proportion of patients where exposure is used	58.3	(34.9)	-	-
<b>Pre-teaching</b>				
Therapist Beliefs about Exposure Scale	27.5	(10.2)	.892	1.10 <sup>NS</sup>
Intolerance of Uncertainty Scale - Prospective	15.5	(4.63)	.848	1.07 <sup>NS</sup>
Intolerance of Uncertainty Scale - Inhibitory	8.38	(2.40)	.675	0.65 <sup>NS</sup>
<b>Post-teaching</b>				
Therapist Beliefs about Exposure Scale	16.7	(8.35)	.882	0.65 <sup>NS</sup>

Table 2

Correlates of initial attitudes to exposure and of changes in those attitudes following teaching

		Correlation with pre-teaching TBES score ( <i>r</i> )	Correlation with change in TBES score ( <i>r</i> )
	<i>N</i>		
<b>Clinician characteristics</b>			
Age (years)	34	-.245 <sup>NS</sup>	-.183 <sup>NS</sup>
Hours per week in face-to-face patient contact	34	-.015 <sup>NS</sup>	-.054 <sup>NS</sup>
Proportion of patients where exposure is used	23	-.377 <sup>NS</sup>	.195 <sup>NS</sup>
<b>Pre-teaching</b>			
Therapist Beliefs about Exposure Scale	34	-	.560 <sup>**</sup>
Intolerance of Uncertainty Scale - Prospective	34	.008 <sup>NS</sup>	-.170 <sup>NS</sup>
Intolerance of Uncertainty Scale - Inhibitory	34	.075 <sup>NS</sup>	-.136 <sup>NS</sup>
<b>Post-teaching</b>			
Therapist Beliefs about Exposure Scale	34	.734 <sup>**</sup>	-.245 <sup>NS</sup>

<sup>\*\*</sup>  $P < .001$